PULP & PAPER

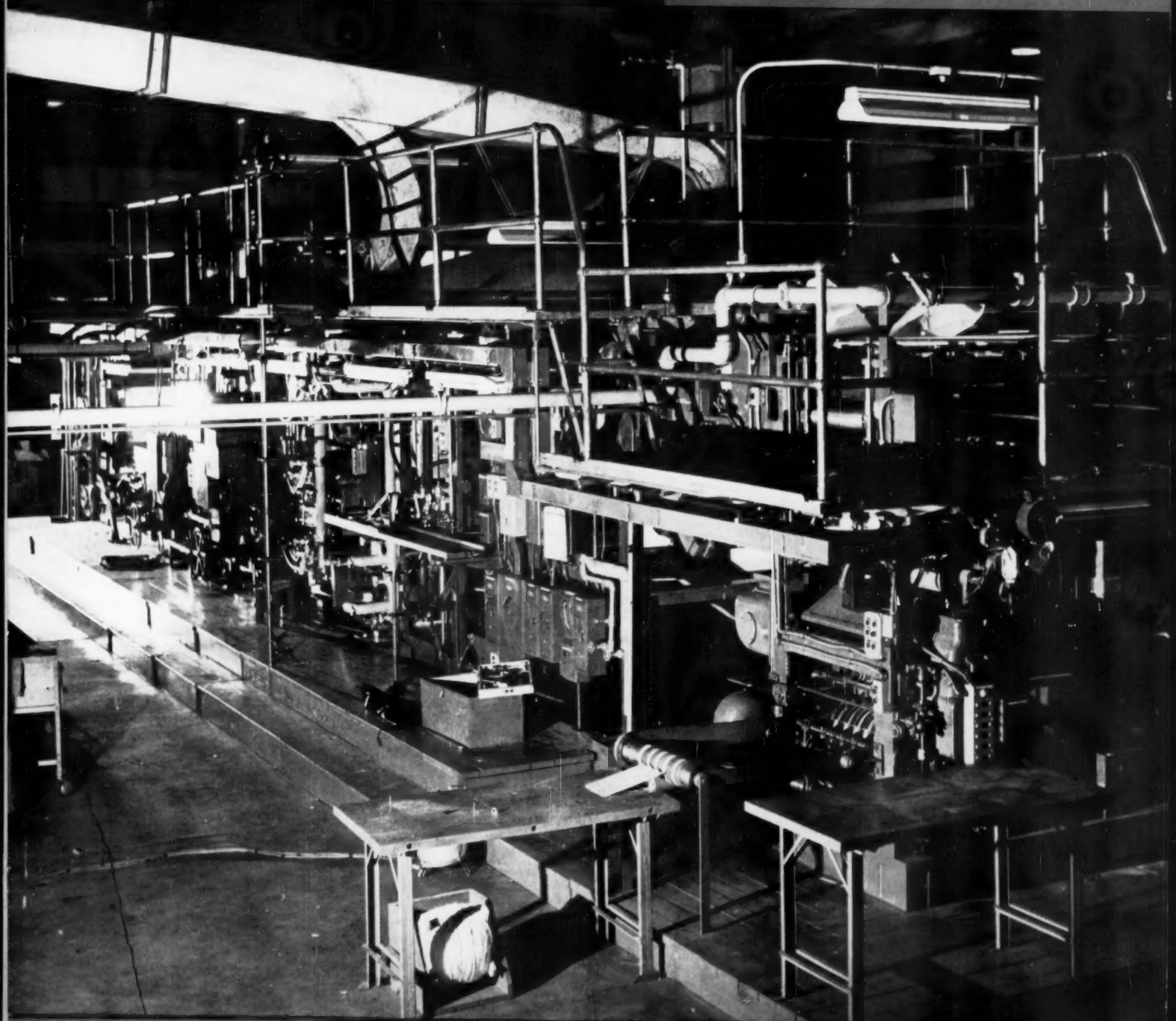
Fiber Containers Find New Uses for Citrus and Lettuce see page 40

Reports on Industry Meetings Coast to Coast

Wisconsin: Institute's 25th see page 44

Maine: Coating Conference see page 48

Oregon: Coast's Big Annual see page 64



2000 FPM PRESS DESIGNED BY RESEARCH LAB of Time-Inc.—part of $12,500,000 search into paper and printing—see page 36

JULY 1, 1954

the difference is thirstier towels, tissues, wiping papers —softer, too, with

CYNOL® { Rewetting Agents / Softeners

No need to sweat over achieving absorbency and softness in papers destined for wiping tissues, saturating papers, toweling or napkins. Just specify one or more of these efficient Cyanamid chemicals...

CYNOL Rewetting Agents —to impart dependable, uniform absorbency to both wet-strength and non-wet-strength papers.

CYNOL Softeners —for *permanent* softness, which does not depend on water pickup for the effect.

The CYNOL Softeners and one of the Rewetting agents are beater additives which require no spray or size tub equipment. Your Cyanamid representative will gladly give you full information and arrange test runs in your mill.

THE WIDEST LINE OF PAPER CHEMICALS *to serve paper industry needs is offered by Cyanamid, and is backed by the services of technically trained men with years of practical mill experience.*

Recent Mill Developments With Cyanamid Paper Chemicals...

Beater time was reduced 40% by a New England mill when it went from a urea resin to PAREZ® Resin 607 (MELOSTRENGTH® Resin) in wet-strength paper. The reduction in beater time means lower power cost, increased dimensional stability of the paper, and reduced curling tendency in the sheet.

* * *

Foam used to be a problem in the de-inking plant of a West Coast mill. That was before a switch was made to ACCOCEL® 741 Pitch Dispersant. After many runs with ACCOCEL, the mill can report "no indication of foaming with this pitch dispersant."

* * *

Another mill has cut size requirements with CYFOR® Fortified Dry Rosin Size Light. Evaluation was made on 21 lb. bond, with 40% Kraft, 60% sulfite furnish. Previously 3¾ to 4% non-fortified size had been needed to meet the dry indicator specification of 20 to 25 seconds. With CYFOR, sizing ran better than 20 seconds at 2½% addition.

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PAPER CHEMICALS DEPARTMENT
30 Rockefeller Plaza, New York 20, N. Y.

Sales Offices: Boston • Charlotte • Chicago • Cleveland • Kalamazoo • Los Angeles • Mobile • New York • Philadelphia • Portland, Ore. • Seattle
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A New Concept in Roll Wrapping!

SPIROLWRAP*

Rice Barton gives you, in one package, all the advantages of spiral wrapping, plus a faster, more economical roll-wrapping and crimping operation.

* REG. U. S. PAT. OFF.

RICE BARTON

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Paper Machine Builders Since 1837

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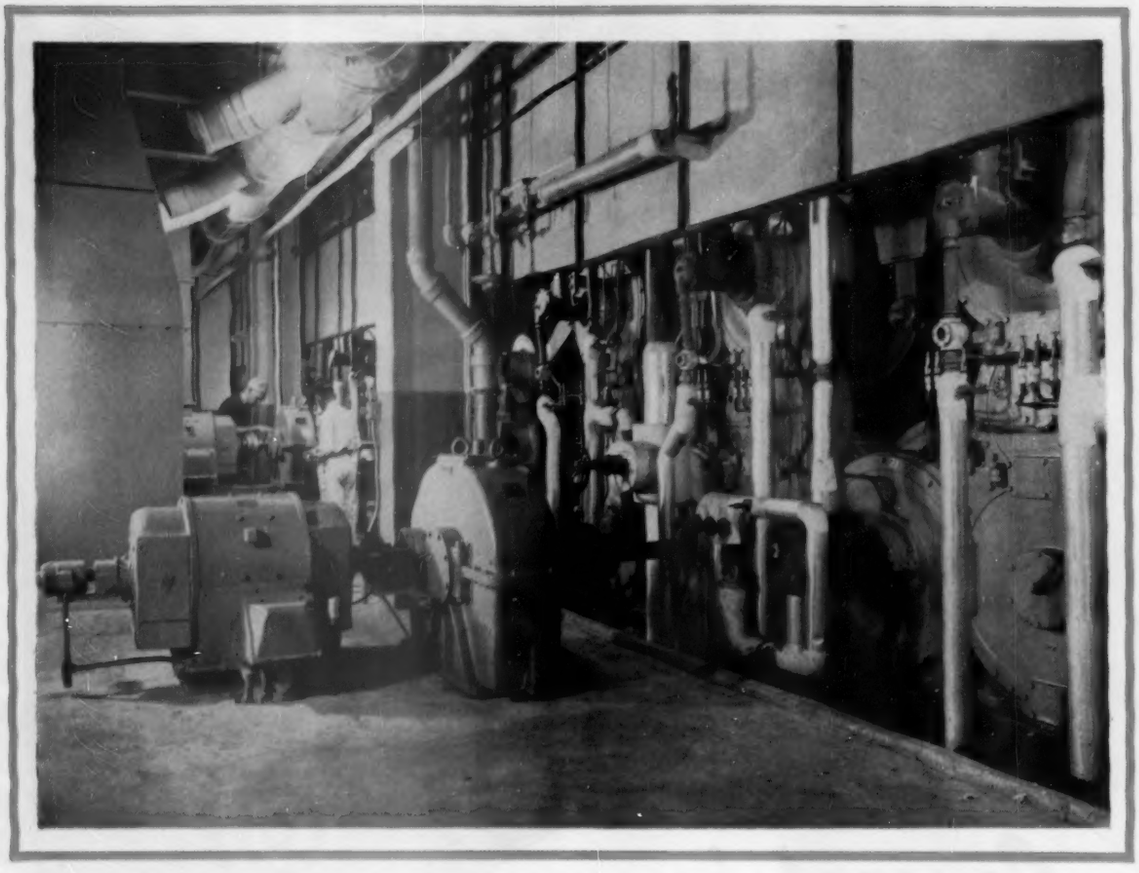

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Get the advantage of the extra load-carrying capacity of Gulf E.P. Lubricants, plus excellent water separating and rust preventive properties, plus exceptional stability for this type of lubricant, plus nonfoaming and non-corrosive characteristics.

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The next time you order gear drive lubricants, make it an order for safe, sure protection and lower maintenance costs — specify Gulf E.P. Lubricants.

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Gulf Oil Corporation · Gulf Refining Company
1822 Gulf Building, Pittsburgh 30, Pa.

Gentlemen:

I would like further information PP on Gulf E.P. Lubricants:

- ☐ Please have a Gulf Sales Engineer call.
- ☐ Please send me a copy of your pamphlet "Gulf E.P. Lubricants for Reduction Gear Drives."
- ☐ Please arrange to show a group in our plant the new Gulf Color Slide Film, "Gears and Their Lubrication."

Name_____

Company_____

Title_____

Address_____

PULP & PAPER

Production and Management Magazine of the Industry

July 1, 1954
Vol. 28—No. 7

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Office of Editor
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COMMENT

One of Fastest Growing Industries

Pulp and paper is one of the three fastest growing industries in the United States.

Couple with this the now established fact that it is one of the "Big Five" in the industrial world, and what big industry could possibly have a brighter outlook?

Also, just to give the picture a rosier longterm aspect, consider these two facts:

Only water, alone, is consumed in greater quantities than paper by mankind. Paper substitutes for many things, but rarely does anything substitute for paper.

Nation's Business, May issue, reveals that aluminum, natural gas and paper are the three fastest growing industries.

Executives Need Special Training

BECAUSE A man is an expert in his special line, it does not follow that he is fit to head his department or the company. That is why, in several parts of the country, there are schools in which men of ability in special fields may be trained to lead and develop men.

Thomas H. Nelson, a management engineer, says: "In our experience, operating executives with high levels of performance are not necessarily equally effective in developing subordinates. They frequently need training in how to develop as well as to direct personnel. It's just as in athletics: a good performer is often not a good coach; he has to be trained in how to coach."

Oftentimes men are made heads of companies who are unfitted for such leadership. They may be likeable, they may be expert in some special field, they may have been with the company a long time, they may have capital, family or personal influence, but in giving them positions of top leadership, the growth and stability of the business may be endangered.—from THE HIGH ROAD (Rice Barton Corp.)

Third Era of Pulp and Paper Industry

The pulp and paper industry has passed through two major eras:

1. Concentration upon the art of mass production.
2. Development and perfection of research techniques.

It is now on the threshold of:

3. The era of distribution and merchandising.

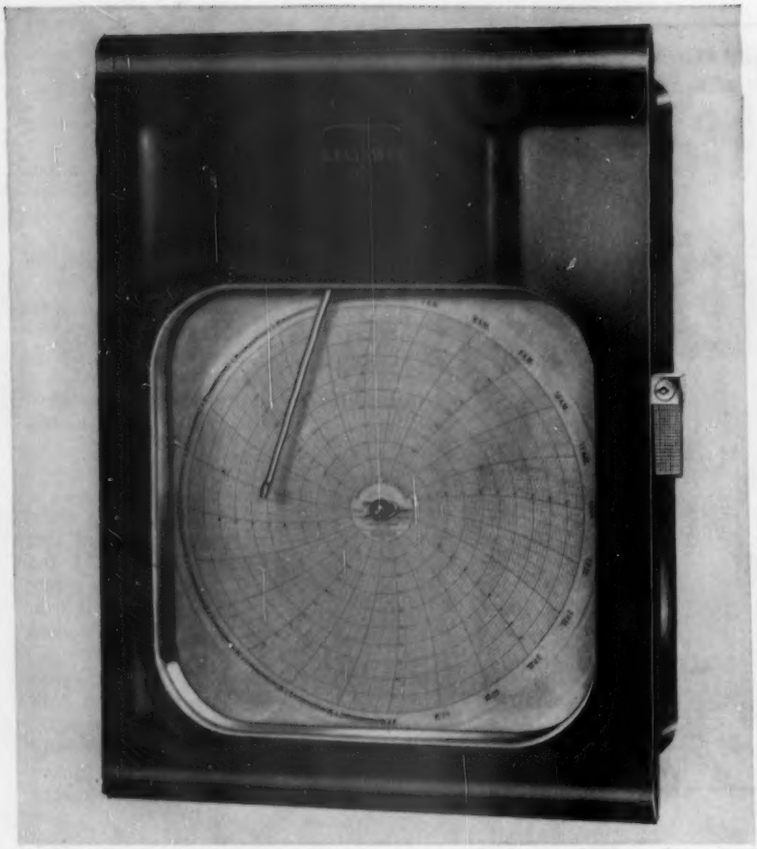
This was the picture presented by G. Willing Pepper, Scott vice president, in a recent dedication of Scott's $11,500,000 first unit of its Everett, Wash., paper mill (already three more machines are "in the works" for this mill to meet the challenge of President McCabe who announced a company program to double its sales).

"Industry has been lulled into believing its products would sell themselves," said Mr. Pepper. "That, of course, is not so. We have a tremendous task ahead in distributing to consumers."

We have heard many a pulp and paper executive express exactly these views. It is obviously the No. 1 objective today of this dynamic industry.

★ ★ ★

MORE CELLULOSE can be grown on an acre of land with trees than with cotton.



EASY-TO-USE BRISTOL RECORDING GAUGES come in pressure ranges from 0 - 0.2 inch of water to 0 - 10,000 psi. Vacuum gauges are available in various ranges from 0 - 30 inches of mercury and absolute pressure gauges in ranges as low as 0 - 6 mm mercury absolute.

Why are more Bristol recording gauges in use than all others put together?

• That's easy — accuracy and dependability are the reasons.

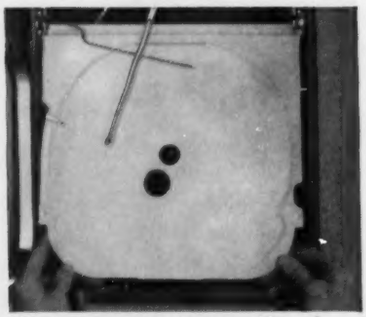
For accuracy, Bristol's measuring elements are unsurpassed. They are the product of 65 years of research and development. Bristol engineers are constantly engaged in developing pressure and vacuum measuring elements of higher accuracy, greater sensitivity, and increased stability.

As for dependability, many Bristol gauges have been in constant operation for more than 40 years — without special attention of any kind!

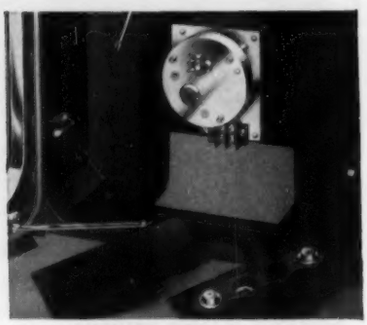
You can get the Series 500 gauge in models designed for recording, controlling and telemetering. Write today for free 32-page Bulletin G621. The Bristol Company, 123 Bristol Road, Waterbury 20, Conn.

Many ranges carried in stock for immediate delivery

LOOK AT THESE "HUMAN-ENGINEERED" FEATURES!



SNAP-ON TYPE CHART PLATE — No tools are needed to remove chart plate. Spring, finger release permits quick access to the space beneath the chart. Plate is easily replaced.



UNIVERSAL CONNECTION BLOCK — Mounting block for instrument connections easily changed from bottom to back of case or vice versa; measuring system can be removed or replaced.

PEN LIFTER — Simple, non-obscuring pen lifter, mounted independently of the chart plate, raises pen from the chart, provides complete freedom for working on instrument with chart plate removed.

BRISTOL

POINTS THE WAY IN HUMAN-ENGINEERED INSTRUMENTATION

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

PULPING COSTS GO DOWN!

with

AMMONIUM BISULPHITE Pulping

Leading mills have converted to the Ammonium Bisulphite Pulping Process because they found pulp production is increased, *while pulping costs go down.*

The changeover to this Pulping Process–pioneered by us–is inexpensive. A minimum replacement–and in many cases, no replacement–of equipment is involved, and there is practically no loss of production during conversion. Check the partial list of advantages below, then wire, phone or write us today. A member of our Technical Service staff will call, give you full details, facts and conversion methods. No obligation!

- **More pulp**—a higher proportion of acceptable pulp of increased freeness is produced, thus increasing the capacity of knotters, deckers, washers and fine screen equipment.
- **Better quality**—unbleached pulp is more uniform, stronger, brighter; has lower ash and lower screened speck count. Less bleach needed.
- **Saves steam**—superior penetration reduces cooking time and maximum temperatures. Temperatures are lowered as much as 30°F!
- **Saves labor**—one ton of ammonia replaces *three* tons of limestone. Handling of limestone, scaling are eliminated.
- **Overcomes stream pollution**—waste liquor is *easily evaporated;* there is a greater recovery of heat and chemicals; while stream pollution is reduced to a minimum.

NITROGEN DIVISION ALLIED CHEMICAL

Anhydrous Ammonia

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ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

Ammonia • Sodium Nitrate • Urea • Ethylene Oxide • Ethylene Glycol • Diethylene Glycol • Triethylene Glycol • Methanol Formaldehyde • Nitrogen Tetroxide • U.F. Concentrate–85 Nitrogen Solutions • Fertilizers & Feed Supplements

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☐ Yes, please send me full details on your Ammonium Bisulphite Pulping Process.

☐ Please arrange to have your Technical Service Man call. No obligation.

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Company_____

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PULP & PAPER PERSONALS

SOUTHERN NOTES

"Miss Hartsville" for Sonoco

RAYMOND F. (RAY) BENNETT, widely known former superintendent of Ecusta Paper Corp., pulp and paper mill, has been promoted from manufacturing supt. to plant manager of the new Cellophane division of Ecusta Paper, also at Pisgah Forest, N.C. Ecusta is a division of Olin Industries.

CECIL B. CURRY has been promoted from pulp superintendent to general superintendent of National Container Corp. of Va., Big Island, Va., succeeding *SIDNEY R. BROWN JR.*, who has joined St. Joe Paper Co.

KRAFT EQUIPMENT CO., INC., has been formed by *HENRY B. MITCHELL* and *LAMAR M. MURRAY*, with headquarters at 704 East Bay St., Savannah, Ga. Both were formerly with Improved Machinery, Inc.

HUGH L. BRYAN, superintendent of the cone dept., Sonoco Products Co., Hartsville, S. C., and Mrs. Bryan were happy over choice of their daughter, Margaret, as "Miss Hartsville" for the town's annual Beauty Parade of the Spinsters Club.

J. L. COKER, president of Sonoco Products, and his wife recently made a 6 weeks business and pleasure trip to Germany, Italy, France and Britain.

C. K. DUNLAP, vice president of Sonoco Products Co., Hartsville, S.C., has been granted two patents this year. The first relates to finishing outside surfaces of paper tubes with a rotary sizing machine, in this case a thermo active material. The second was a textile bobbin adapted for shipping core for yarn packages in which a reinforced inner tubular member usable as a shipping core for packaged yarns after the original covering expendable paper tube is discarded.

W. L. VIGNES, who had served as production manager of Calcasieu Paper Co., Elizabeth, La., is now general superintendent in charge of the mill. *EDWARD K. AHRENS*, who resigned his post as general manager, is vacationing.

B. WEAVER SORRELLS, paper manufacturing dept. supt. for Champion Paper & Fibre Co., Canton, N. C., succumbed to a heart attack on May 8. He had been with the company since 1919.

MIDWEST NOTES

Breyfogle Honored

WILLIAM O. DeVOLL is new coordinator of training and development for Champion Paper and Fibre Co., succeeding *GEORGE A. ARTHUR*, retired. Mr. DeVoll came with Champion in 1947, after several years in Middletown, O., public school system as supervisor of pupil personnel.

FRANK MOULTON has been named superintendent of Port Edwards shipping department for Nekoosa Edwards.

WHEN MANAGEMENT GETS TOGETHER

NEW TEXAS DIVISION Manager of Champion Paper and Fibre Co., KARL R. BENDETSEN (second from left) chats with other members of top management team during luncheon at Champion's Pasadena, Tex., mill. L to r are Mill Manager I. D. WELLS, Mr. Bendetsen, Paper Mill Supt. DICK BETTS, Manager of Industrial and Community Relations MIKE KOURY, Purchasing Agent JERRY JACKSON and Pulp Mill Supt. GLENN SMATHERS.

NEW FACES IN MIDWEST

JOHN L. HAGEN (left) is in charge of new district office for Louis Allis Co., in Appleton, Wis. Mr. Hagen has been with Louis Allis for 6 years, the last 5 in the Wisconsin (Milwaukee) district sales office.

ROY F. ROOP (right) has joined the sales staff in Chicago for Farrel-Birmingham Co., serving Lake States and Pacific Coast mills. GERALD R. GONYER, for 17 years with F-B, is appointed manager of the Chicago office.

FRED B. ATTWOOD, formerly of Container Corp., Samuel M. Langston Co., and Olin, is new manager of manufacturing at River Raisin Paper Co., Monroe, Mich.

JOHN ANNABLE, who attended Oberlin College before serving in the Navy and graduated from Ohio U., has joined the engineering staff at Ohio Boxboard Co.

DON T. METZ, former district manager on Pacific Coast for Byron Jackson Pump Co., is new district manager in Middle West with offices at 407 So. Dearborn, Chicago—phone Harrison 7-2375. Principal assistants contacting paper mills are *O. M. PETERSON*, Minneapolis, and *GEORGE PETRIE*, Milwaukee.

WILLIAM J. BROWN, assistant forester of Kimberly-Clark Corp., is chairman of the Wisconsin Forest Industries.

L. H. BREYFOGLE, of Kalamazoo and a representative for Draper Felts, is to be honored by having a Western Michigan College paper industry scholarship named for him. *CORMAC JOSEPH McMAHON*, Appleton Woolen Mills, Appleton, Wis., is honorary chairman of the scholarship committee.

WILLIAM H. DIETZ, DuPont specialist in use of pigments by paper and paint industries, has been assigned to the Cleveland sales office. His home will be in Middletown, O. Mr. Dietz started with DuPont in 1951 as a chemist at the Newport pigments plant; he is a 1942 Swarthmore College grad.

Continued on page 10

2 New Services from Crane

How to Choose the Right Valve for Each Piping Job

HOW TO GET THESE FREE HELPS

Easiest way: phone your local Crane Representative—let him schedule a film showing for your group and supply the "take-home" handbooks. If more convenient, just drop a line to the address below.

Men responsible for specification, operation, and maintenance of industrial piping systems will get a real "refresher" from these new Crane customer services. Both film and handbook deal with the common problems of matching up valve characteristics and specific flow control needs for the most efficient result.

Following a review of basic valve types—gate, globe, angle, and check—variations in design of functional parts, and the effects on serviceability are discussed. All vital elements—disc and seating—disc-stem connection, bonnet joint, stem operation, etc., are covered. The motion picture stimulates high interest by developing a hypothetical case involving strong differences of opinion on valve selection. The manual—intended for distribution at film showings or for independent use—provides a lasting reference.

THE BETTER QUALITY... BIGGER VALUE LINE... IN BRASS, STEEL, IRON

CRANE VALVES

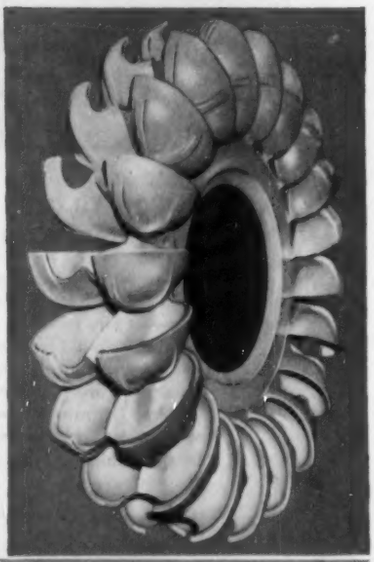
CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

Finishing a 140,000 H.P. impulse turbine runner for Kemano, the powerhouse which will feed the Aluminum Co. of Canada's new aluminum plant at Kitimat, on Canada's west coast.

High Efficiency... Reliable Performance

DOMINION *Impulse* TURBINES



The experience and the resources (including complete design, engineering and laboratory testing facilities) of both Dominion Engineering Company Limited and Neyrpic, Grenoble, France, are combined to produce Dominion Impulse Turbines—resulting in high efficiency designs for a wide range of specific speeds to suit a great variety of operating conditions. These include single jet horizontal and multi-jet horizontal and vertical arrangements.

The quality of the design, the selection of proper material and the precisely correct degree of finish are among the essential factors which assure reliable performance and absence of serious pitting at high specific speed. Your inquiries are invited.

DOMINION ENGINEERING
COMPANY LIMITED

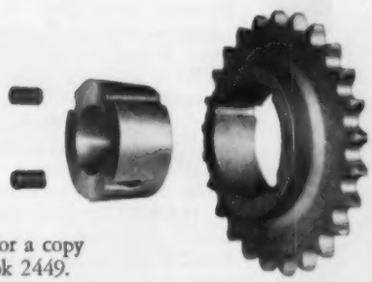
MONTREAL, CANADA D CABLE: DOMWORKS

SAVE TIME! SAVE MONEY!

Use Link-Belt roller chain sprockets with taper lock bushings

Faster, less expensive procurement!

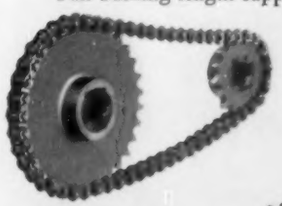
There's no delay for reboring when you need sprockets in a hurry. You can pick these *right off the shelf*. Stocks include sizes for single width chains from RC-40 through RC-160.



Send for a copy of Book 2449.

Faster, less expensive installation and removal!

No need to fit sprocket to shaft. Setscrews draw sprocket onto taper bushing, causing bushing to clamp tightly on shaft — equivalent to shrink fit. Turning setscrews in removal-holes quickly releases sprocket from shaft. Full bushing length supports sprocket on shaft.



AN IDEAL COMBINATION: Link-Belt Precision Steel Roller Chain and Link-Belt Sprockets

LINK-BELT

ROLLER CHAIN AND SPROCKETS

LINK-BELT COMPANY: Executive Offices, 307 N. Michigan Ave., Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office, New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World.

13,207

NORTHEAST PERSONALS

New IP Line Up; Oxford Promotes Nine

JOHN F. ROLLINS, general solicitor, International Paper Co., has been elected to the board of directors to fill vacancy created by death of *W. G. WOOLFOLK*. *F. HENRY SAVAGE* is new vice president and general sales manager at IP. *JOSEPH P. MONGE*, vice president and treasurer, Canadian IP, has been elected treasurer of the parent company. He replaces *CARL S. VOLK*, treasurer, IP, who has been elected vice president and treasurer of the Canadian subsidiary. *STUART E. KAY*, vice president in charge of operations of the company's northern mills, is assigned to handle labor and employe relations. New general traffic manager at IP is *OLAF N. RYE*.

DR. JOHN N. McGOVERN, for years Chief, Pulping Section, U.S. Forest Products Laboratory, Madison, Wis., and pioneer researcher for several mills in semi-chemical pulping, has joined Parsons & Whittemore Inc., New York, to aid in its fibers utilization and mill building programs in foreign countries.

McGOVERN JOINS P & W

WALTER HOLLAND, mill manager, Oxford Paper Co., Rumford, Me., announces the promotion of nine Oxford men: *JOSEPH R. CARNEY*, from production coordinator Rumford mill to staff assistant, manufacturing, N.Y. office; *PAUL W. FULLER*, from foreman to supervisor, mill wood dept.; *ALEXANDER C. MILLER* from foreman, Island Div. Wood Yard to foreman for both Oxford and Island Div. Wood Yards; *CHARLES R. ATWOOD*, from mill wood dept. supervisor and superintendent of wood dept. to wood procurement and wood supply; *DONALD L. BARKER* from scaler, Island Div. Wood Yard to foreman; *WILFRED U. HAMEL*, is new night foreman, Island Div. sulfite mill; *DANA A. EASTMAN* is now foreman, shipping dept.; and *ALBANI BREAU* and *ROBERT E. NISBET* from crew leaders to foremen of roll handling crews, shipping dept.

W. S. "PAT" YUNKER has joined E. D. Jones & Sons Co. as southern representative. His background includes 20 years in pulp and paper industry.

NEWTON L. NOURSE, vice president-sales, Brown Co., Berlin, N.H., announces that *W. F. GILLESPIE, JR.* is new sales promotion manager.

DARCY B. WILKINSON (left) is new Administrative Asst. to Scott Paper Co. Vice President HARRISON F. DUNNING. JOSEPH W. SHIMP (right) replaces Mr. Wilkinson at Scott's Fort Edward, N. Y. mill as Plant Manager.

Continued on page 14

CUSTOM Fabricators

TRAINED PERSONNEL...
MODERN FACILITIES...
Specializing in:
Stainless Steel Products
Stainless Steel Tubing
Stainless Steel Valves
Stock Valves
Stainless Steel Fabrication
Stainless Steel Fittings
Stainless Steel Pipe
Copper Smithing
Lead Linings
Lead Burning

NORTHWEST
COPPER WORKS, Inc.
1303 No. River Street
Portland 12, Oregon

Telephone MUrdock 2191

Announcing direct tank-ship delivery of

Brea® AQUA AMMONIA

to pulp mills of the Pacific Northwest

TANKER DELIVERY *route will cover pulp mills and industrial users with dock facilities, from Willbridge, Oregon to Prince Rupert, British Columbia.*

$13,000,000 AMMONIA PLANT NOW ON STREAM. Newest addition to the West's growing nitrogen industry is this 235-ton per day ammonia plant at Brea, California.

12 BREA CONVERSION AND STORAGE TERMINALS, with a total capacity of 21,000,000 gallons, serve the principal industrial and agricultural areas of the Pacific Coast and Hawaii.

Brea Chemicals, Inc., subsidiary of the Union Oil Company of California, offers a new direct-delivery service of aqua ammonia by tank-ship to Northwest ports of Oregon, Washington, and Canada.

Pulp mills and other industrial users of Brea Aqua Ammonia with dockside storage facilities are served by compartmented Union Oil tankers of 140,000-barrel capacity, carrying split cargoes of aqua ammonia, fuel oil, kerosene, gasoline, and other petroleum products.

16,000 TONS OF AMMONIA USED BY NORTHWEST SULFITE PULP MILLS

Inaugurated in June, the new one-stop, multiple-product direct service is a logical extension of Union Oil's regular tank-ship deliveries to Brea's Aqua Ammonia storage terminals at Edmonds, Washington, and Willbridge, Oregon. Its aim is to serve the increasing demand for ammonia by Pacific Northwest sulfite pulp mills, which are already using more than 16,000 tons per year as a cooking liquor base.

BREA AQUA AMMONIA—A STABLE LIQUID

Brea Aqua Ammonia, a 24.5 percent ammonia-in-water solution, is a stable liquid—shipped, stored, and handled without special pressure equipment. Brea's new service to the Pacific Northwest Pulp Industry offers the efficiency and economy of bulk fluid handling, with the convenience of direct tank-ship delivery of both aqua ammonia and petroleum products.

Delivery of Brea Aqua Ammonia also is available to river and inland points, by tank-barge or tank-truck, from Brea Storage Terminals at Edmonds, Washington, and Willbridge, Oregon. For further information, phone or write to

Brea®

BREA CHEMICALS, INC.

subsidiary of the Union Oil Company of California

714 WEST OLYMPIC BLVD., LOS ANGELES 15, CALIFORNIA • Richmond 7-0116

It takes TI-PURE®

TITANIUM DIOXIDE

to make paper opaque and bright

...and Du Pont makes it!

® Reg. trade-mark for Du Pont titanium dioxide pigments

YOU GET a titanium dioxide pigment which is specifically adaptable to paper manufacture. It disperses easily in water, has fine beater retention, low-water and adhesive demand—all of the important features needed for easy and sure use in paper furnishes and paper coatings. It's the best TiO_2 for paper we have ever made!

If you have any questions about the use of titanium dioxide in bread wraps, waxed board, glassine, bond or book—in fact for any paper application, just call us. Our Technical Service or Paper Laboratory may already have the answer; if not they'll be glad to work with you to find it. Just contact our nearest district office or write to: E. I. du Pont de Nemours & Co. (Inc.), Pigments Department, Wilmington 98, Delaware.

PROMPT NATIONWIDE SERVICE THROUGH THESE DU PONT DISTRICT OFFICES* AND WAREHOUSES

Atlanta, Ga.
*Detroit, Mich.
Lockland, Ohio
New Orleans, La.
*Portland, Oregon
*Chicago, Ill.
*Houston, Texas
*Louisville, Ky.
*New York, N. Y.
St. Louis, Mo.
*Cleveland, Ohio
Indianapolis, Ind.
*Malden, Mass.
*Pasadena, Calif.
*San Francisco, Calif.
Dallas, Texas
Kansas City, Mo.
Minneapolis, Minn.
*Philadelphia, Pa.
Seattle, Wash.

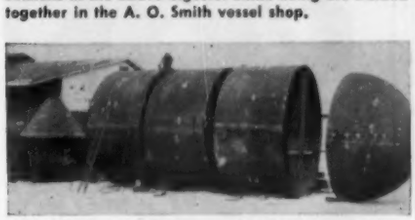
DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Dome section of world's largest sulphite digester, SMITHlined with Hastelloy alloy F.

Sulphite Digesters SMITHlined with Hastelloy* Alloy F Overcome Dome Pitting Problems

Sections of the above digester dome being arc welded together in the A. O. Smith vessel shop.



Digester sections being assembled prior to erection at the paper mill. Completed it will be 58 feet high, with 19-foot inside diameter.

For many years, A. O. Smith research engineers have been working on the corrosion problems that beset digesters in the acid pulping phase of paper manufacture. Most alloys that are satisfactory when in contact with the liquor, suffer severe pitting from corrosive action of the vapor in the digester dome.

Extensive experience with the nickel-base alloy, Hastelloy alloy F, in laboratory programs and field exposure tests, suggested its use for sulphite digesters.

Three years of field service tests confirmed our belief that Hastelloy alloy F provides a long sought solution to the problem of vapor pitting.

The metallurgical characteristics of Hastelloy alloy F are *ideally suited for the SMITHlining process* of resistance Welding. (SMITHlining is the closely controlled resistance welding process of inseparably bonding alloy sheets to carbon steel digester walls.) A. O. Smith also *developed special coated electrodes* for metallic arc welding to assure a completely uniform Hastelloy alloy F lining.

This is just one example of our efforts to help the Paper Industry solve its digester problems. The data accumulated from our comprehensive laboratory and field testing programs is available to you. Consult A. O. Smith on your digester problems.

*Registered Trade Name of Haynes Stellite Company, a Division of Union Carbide & Carbon Corp.

A.O.Smith
CORPORATION

VESSELS • HEAT EXCHANGERS

Chicago 4 • Cleveland 15 • Dallas 2 • Denver 2 • Houston 2 • Los Angeles 22
Midland 5, Texas • New Orleans 12 • New York 17 • Pittsburgh 19
San Francisco 4 • Seattle 1 • Tulsa 3 • Washington 6, D.C.

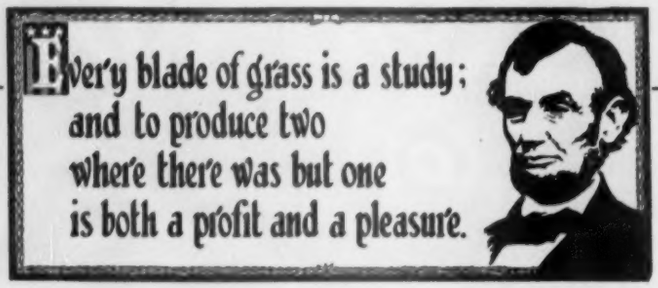
NORTHEAST NOTES

DR. RALPH NAZZARO, technical director, Westfield River Paper Co., Russell, Mass., announces the appointment of *WALTER J. BRAND* as assistant director of research.

DR. J. C. PULLMAN has been appointed as assistant to the manager of the new product development dept. at American Cyanamid Co.

C. J. SCHMIDT, for past 20 years in charge of Detroit office of J. O. Ross Engineering, is new vice pres. of sales and is moving to company's main office in New York City. Mr. Schmidt joined Ross in 1930.

A. J. LUETTGEN is new mill manager of P. H. Glatfelter Co.; *L. B OWEN* becomes general superintendent; *STEWART C. BURNS* becomes superintendent of finishing.



PRODUCT DEVELOPMENT

Research by Snell may increase your "Blades"—Developing New Products for New Profits

Marginal mills desiring to enter the specialty fields for maintenance of profits will find Snell facilities and experience valuable tools.

Specialty papers can be developed to exclude air, light, moisture or contamination; to impart flavor or aroma; to give new qualities of grease or electrical resistance; new tear strength or new decorative features.

Snell's facilities in its "million-dollar" research laboratories include a versatile machine for coating and treating a paper web used in the development of varied specialty papers.

You Are Invited

to bring your research problems to Snell. Initial inquiry or interview involves no cost or obligation. "SERVICES" Booklet free on request.

RESEARCH FACILITIES AT COSTS YOU CAN AFFORD

RESEARCH LABORATORIES
FOSTER D. SNELL INC.
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CHEMISTS · ENGINEERS

BLACK-CLAWSON TRAVELLERS

R. R. (Bob) CRAWFORD (left), of B-C's Shartle Bros. Machine Div., having recently returned from a month's tour of England and Europe, is now making arrangements to return to England for an extended tour of duty with Black-Clawson International. FRANK T. PETERSON (right), Black-Clawson Vice Pres., has returned to New York from an extensive European trip, during which he consummated arrangements to furnish additional B-C equipment to De Forenede Papirfabrikker at Copenhagen, Denmark.

CANADA NOTES

Wins An Award

JOSEPH P. MONGE, vice pesident and treasurer of Canadian International Paper Co., Montreal, has received a fellowship award from the National Business Management Assn.

JOHN WILSON is the new superintendent of the Trenton, Ontario, mill of Hinde & Dauch Paper Co. He succeeds his father, *ROY WILSON*.

WALTER ANDERSON has retired as sulfite superintendent at the Thorold mill of Ontario Paper Co. after 38 years service. He has been succeeded by *WALTER STEWART*.

LORNE C. ANDERSON, assistant to the president in charge of research and development of Ontario Paper Co. and Quebec North Shore Paper Co., died in a St. Catharines, Ont., hospital.

NEW OFFICERS FOR SUPPLIERS

THOMAS A. PRINTON (left), President of Nopco Chemical Co., is new Chairman of Board. EVERETT C. REED (center) is Vice Pres. and Director of Albany Felt Co. Ltd. of Canada, and Asst. V.P. of Albany Felt Co. EDWARD A. LIVINGSTONE (right) is Vice Pres. and new Director of Babcock & Wilcox.

Continued on page 18

Griffith S.D.T. ROLLS

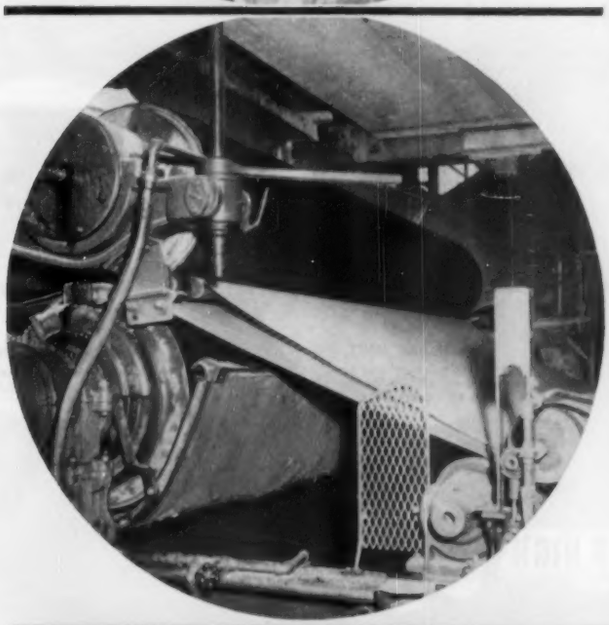
RUBBER COVERED
"Self-Doctoring Topress" Rolls
by
GRIFFITH of Portland

Helps Port Angeles Increase Newsprint Production

- **2% BETTER WATER REMOVAL OUT OF FIRST PRESS**
- **400% LONGER FELT LIFE**

Crown Zellerbach's No. 2 News Machine at Port Angeles, Washington, is equipped with a Beloit Pick-Up Transfer. In over 100 hours of continuous operation (since last start-up) no breaks occurred at this press. Machine speed is in excess of 1,700 feet per minute.

The top roll is resilient GRIFFITH S.D.T. Three other Self-Doctoring Topress Rolls are running in this three-machine mill. (All were purchased separately from GRIFFITH at Portland.)



GRIFFITH S. D. T. Rolls are also running on Kraft and Sulphite machines in many positions from Lumpcrusher to Sizing Presses.

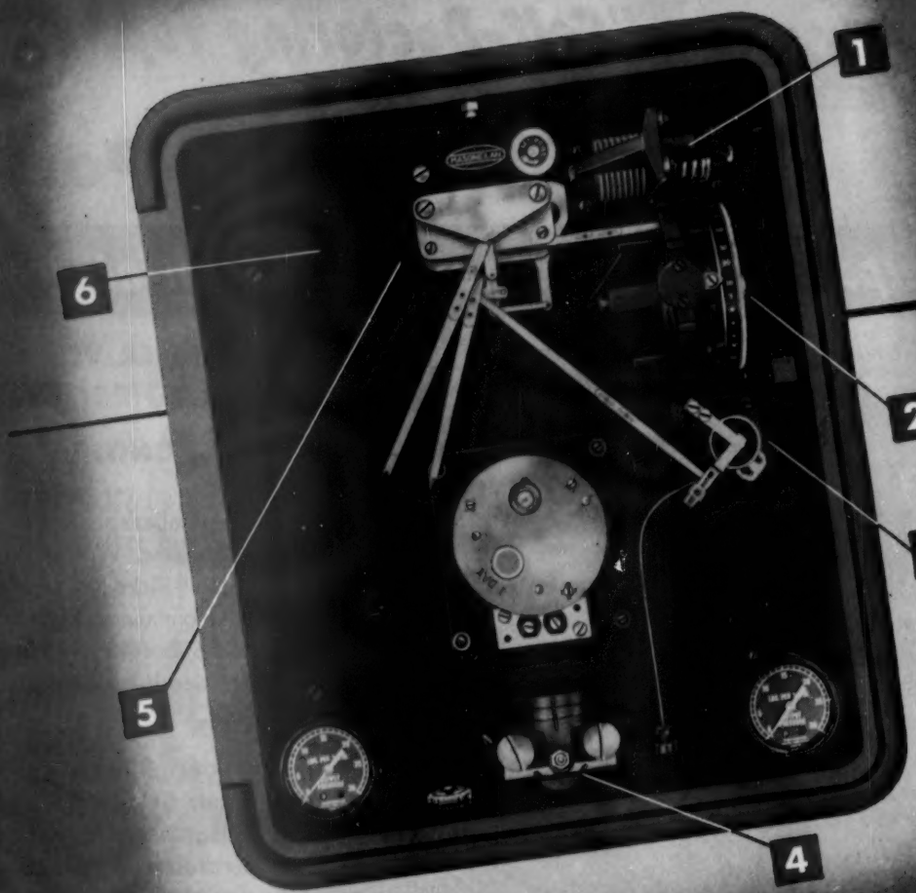
Bottom Suction Rolls are rubber covered and drilled by GRIFFITH at Portland.

Write or Telephone for an Estimate on Your Job

Griffith RUBBER MILLS

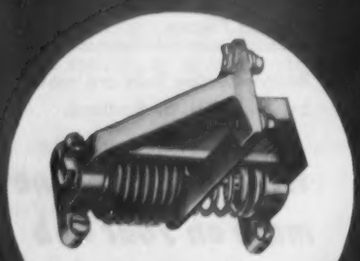
2439 N. W. 22nd AVENUE
PHONE: BEacon 7126
PORTLAND 10, OREGON

Rubber Roll Specialists Since 1911

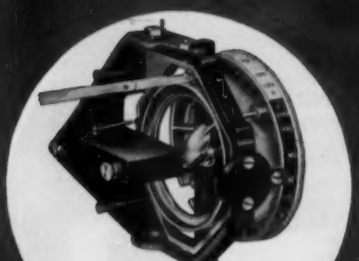


An

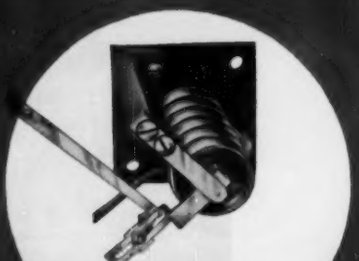
MASONEILAN 60000 SERIES PNEUMATIC CONTROLLER



1. PROPORTIONAL UNIT
interchangeable with proportional-reset unit.



2. GIMBAL UNIT
combines primary and feedback motions — basic in all controllers.



3. PRIMARY ELEMENT
helical or spiral bourdon, or bellows as required.

A HIGH Co PRODUCT

Instrument Man's Instrument

MASONEILAN

Masoneilan 60000 Series Controller
IS SIMPLE AS A B C

One Setting of basic "3-in-1" controller

selects on-off, proportional, or differential-gap control; direct or reverse action; proportional band or differential-gap setting.

Easy to Set, Adjust, Test and Service —

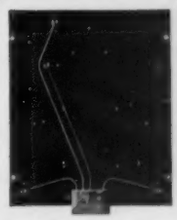
all settings made without removing chart; all subassemblies complete and directly accessible; all air passages manifolded; four-position transfer switch in manual control subpanel.

Easy to detach and interchange subassemblies

from backplate-manifold to vary desired control function; for cleaning or servicing.

4. RELAY PILOT
with cleanable orifice and integral filters.

5. PEN MOVEMENT
includes gearless index setting.



6. BACKPLATE-MANIFOLD
supports subassemblies; conceals, supports, tubing; eliminates fittings.
(Rear View)

MASON-NEILAN REGULATOR CO.

1181 ADAMS STREET, BOSTON 24, MASS., U. S. A.

Sales Offices or Distributors in the Following Cities:

New York • Syracuse • Chicago • St. Louis • Tulsa • Philadelphia • Houston • Pittsburgh • Atlanta • Cleveland
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Charlotte • Los Angeles • Corpus Christi • Denver • Appleton • Birmingham • New Orleans • Dallas • Seattle
Mason-Neilan Regulator Co., Ltd., Montreal and Toronto

CANADA NOTES

CHRIS MICHELS, recently retired as vice president of Great Lakes Paper Co. at Fort William, Ont., was feted by employees and presented with a gift. He started his long career in the industry at the old West Lynn Paper Co. in Oregon City, where he was born in 1893.

J. AUSTIN PARKER, who joined Mersey Paper Co. in 1929, has been elected to its board.

KARLO AMPERLA, Finnish consulting engineer, and *E. KRAZELKO* of Kalevankatu, were recent visitors to British Columbia, conferring with mill executives at Powell River and Duncan Bay (Elk Falls Co.) Other Finns representing the industry in Western Canada were *B. BRYGDEN*, mill manager of Anjala Paper Co. and *LARS MIKANDER*, of Workhaus, both subsidiaries of Tammefoss Paper Co.

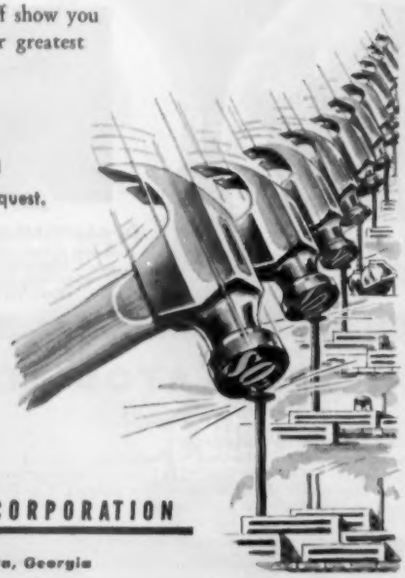
In a large number of processes, a more satisfactory and economical operation is achieved through using Tennessee's highest quality Sulphur-Dioxide. Maybe you have a specific operation problem in which this product would hit the nail on the head. Many plants and refineries have already discovered the way to higher profits and better results by using our product with its many uses. We can supply Tennessee's highest quality Sulphur-Dioxide in cylinders, ton drums, tank cars, and tank trucks. Let our own technical staff show you how you might employ it to your greatest advantage.

TC TENNESSEE CORPORATION

Samples, Specifications and Detailed Information on Request.

CONTAINERS

- Cylinders
- Ton Drums
- Tank Trucks
- Tank Cars



TENNESSEE TC CORPORATION

617-29 Grant Building, Atlanta, Georgia

SO. CALIF. PAPERMAKERS

(Top) ARTHUR HOOKER (left), Pioneer-Flintkote Co., Los Angeles, was elected chairman, Papermakers & Associates of So. Calif., May 20. He succeeds T. S. (Ted) MARKOV (right), Fiberboard Corp.
(Bottom) TANY AGRONIN (left), Shartle Bros. Chief Engineer, was featured speaker. With him are FRANK B. HAVENS, Regional Mgr., American Cyanamid, and JOHN OUNSEM, Paper Mill Mgr., Pioneer-Flintkote.

CALIFORNIA NOTES

Art Hooker elected

ARTHUR HOOKER, assistant purchasing agent, Pioneer-Flintkote Co. succeeded *T. S. "TED" MARKOV*, Fiberboard Corp. as chairman, Papermakers & Associates of Southern California, at the 12th annual election meeting, held at Los Angeles May 20. *WILLIAM H. RICHARDS*, Container Corp. was elected vice chairman; *SCOTT GEORGE*, Pioneer-Flintkote, secretary-treasurer replacing *ROBERT LEWIS*. New members of the executive committee were: The retiring chairman; *LLOYD DEAN*, Volney Felt; *FRANK SEARCY*, U.S. Gypsum. Speaker of the evening was *TANY AGRONIN*, chief engineer, Shartle Bros. His subject: "Stock Cleaning."

TO SOUTHEAST AND SOUTHWEST

EMIL HLADKY (left) moves to Savannah, Ga., to be Manager of American Cyanamid titanium dioxide plant now under construction. He will move his wife and two boys there shortly.

ARTHUR J. BREWSTER (right) goes from Teterboro, N. J., to be Manager of Angelus corrugated box division of Robert Gair Co. at Los Angeles, Calif.

Continued on page 22

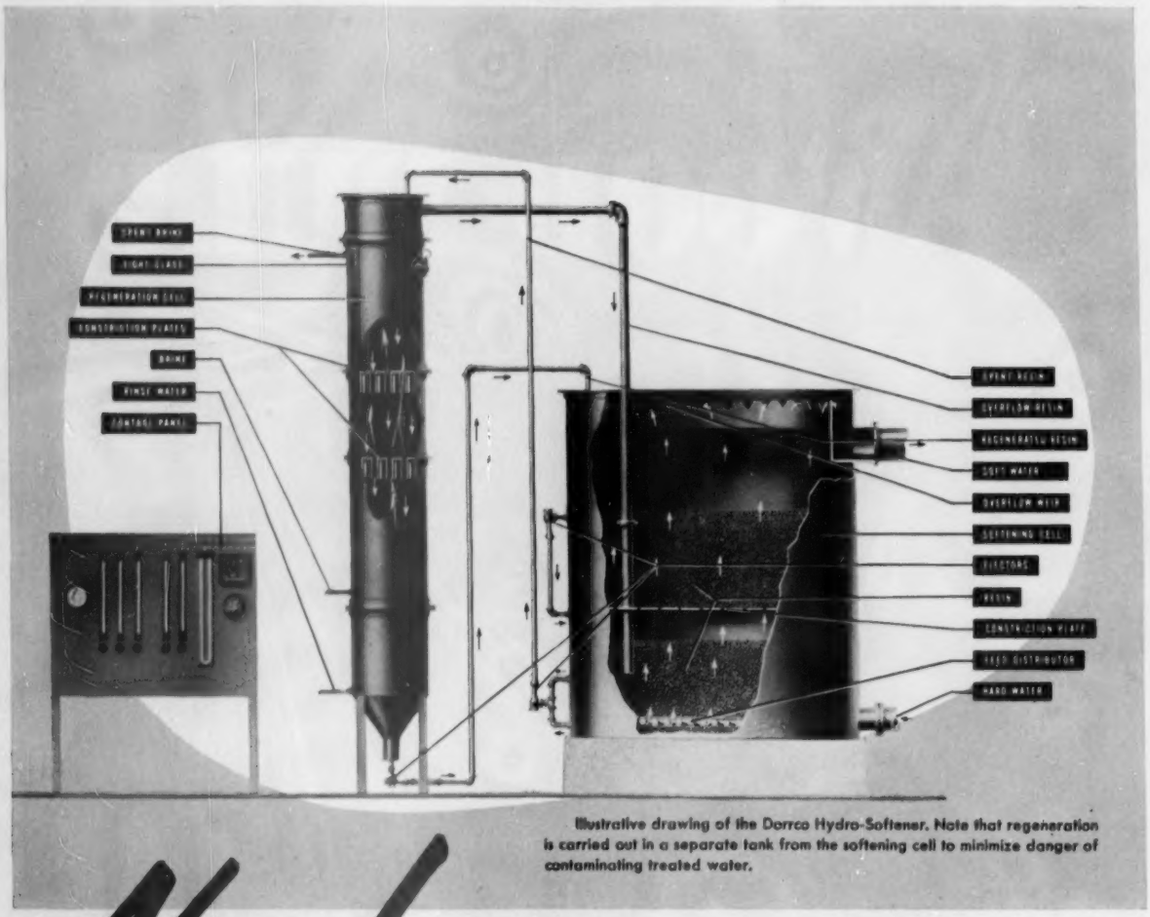
WOOD PULP

PAPER

BULKLEY, DUNTON & CO., INC.
BULKLEY, DUNTON PULP CO., INC.
BULKLEY, DUNTON PAPER CO., S. A.
BULKLEY, DUNTON CELLULOSE EXPORTS, INC.
BULKLEY, DUNTON PAPER (FAR EAST) CO., INC.
BULKLEY, DUNTON PROCESSES, INC.
In New England—
CARTER, RICE & CO. CORPORATION
and STORRS & BEMENT COMPANY

BULKLEY, DUNTON
ORGANIZATION
295 MADISON AVENUE, NEW YORK 17, N. Y.

Offices and representatives in 60 cities
in the United States, Europe, Latin America, Africa, and Asia



Illustrative drawing of the Dorrco Hydro-Softener. Note that regeneration is carried out in a separate tank from the softening cell to minimize danger of contaminating treated water.

New! Base Exchange Softening Goes Continuous...

Here's the Dorrco Hydro-Softener . . . the new *exclusive development* that puts both the softening cycle and regeneration cycle on a 100% continuous basis. There's no shutting down to regenerate and rinse . . . no periodic slug discharge of high content brine to contaminate the stream . . . but a continuous supply of soft water at a constant quality.

What's more, installed cost of the Hydro-Softener is lower than with a conventional batch cation exchange softener and more efficient regeneration and lower rinse water requirements add up to lower operation costs.

If you'd like more information on this new development in water treatment practice, drop a line to The Dorr Company, Stamford, Conn. Bulletin No. 4083, just off the press, describes the Dorrco Hydro-Softener in detail. A copy is yours for the asking.

Better tools TODAY to meet tomorrow's demand

DORR

FIFTY YEARS 1904–1954

WORLD-WIDE RESEARCH • ENGINEERING • EQUIPMENT

THE DORR COMPANY • ENGINEERS • STAMFORD, CONN.

Offices, Associated Companies or Representatives in principal cities of the world.

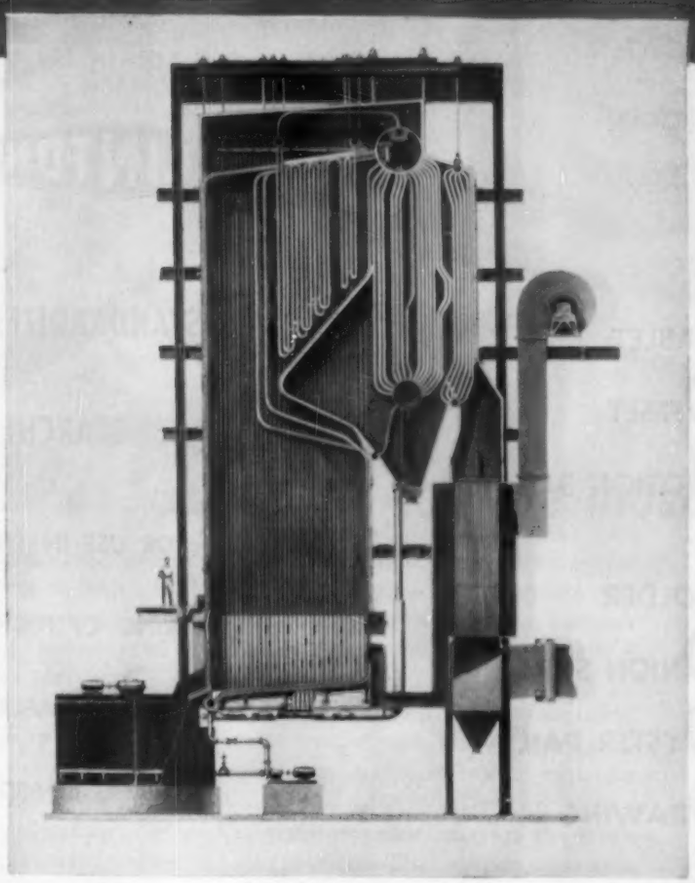
4 B&W RECOVERY UNITS

Serve Charleston Mill of West Virginia Pulp & Paper Co.

Four B&W Recovery Units are establishing high chemical recovery rates at the Charleston, S. C., mill of West Virginia Pulp & Paper Co. The first B&W Recovery Unit for Charleston was ordered in 1936, and repeat orders were placed in 1940, 1945, and 1948. The four units have a combined capacity of 8.15 million pounds of steam per day.

Preventive cleaning of gas passages, practically all of which is done automatically, helps to keep the furnaces operating at high efficiency.

The performance record of B&W installations such as those at Charleston puts the B&W organization in a good position to solve your recovery problems. The Babcock & Wilcox Company, Boiler Division, 161 E. 42nd Street, New York 17, N. Y.



Typical B&W Recovery Unit

BABCOCK & WILCOX

P-772

CALIFORNIA NOTES

A. W. OLSON, operating manager, Crown Zellerbach, Los Angeles, is due to retire Oct. 1. He has been with the company over 40 years. At a Crown Z "watch dinner," *ELLEN SCOTT*, secretary 25 years to the late *LESTER E. REMMERS* and now serving his successor as resident manager *I. E. NICHOLL*, was awarded a gold timepiece. Watches were given 25 other employes for long service.

W. R. SOMMER, recently appointed office manager, Fibreboard Products, Inc., Antioch Div., has been transferred to the company's head office, San Francisco, as assistant controller. Mr. Sommer has been with the company since 1928. *W. K. EPLING*, formerly office manager of the San Joaquin Div., (East Antioch, Calif.) has been transferred to Antioch, replacing Mr. Sommer. *C. C. SERRAHN* has been appointed office manager of San Joaquin. He has been with Fibreboard since 1950.

COATED
LEDGER
INDEX
NOTE
TABLET
OFFSET
NOTION BAG

FOLDER
ONION SKIN
OYSTER PAIL
DRAWING
SAFETY

INSULATING
NOVEL
CORRUGATED

CLINTON

STANDARDIZED

STARCHES

FOR USE IN THE

MAKING OF HIGH-

GRADE PAPERS

AND BOARDS

CLINTON FOODS INC.

Corn Processing Division

CLINTON, IOWA

DONALD L. SHIRLEY (left), long in equipment supply to Pacific Northwest pulp and paper mills, has been appointed District Sales Mgr. for Link-Belt Co., in Seattle, Wash. (headquarters, 3405 6th Ave. So.) He served with Link-Belt from 1914-44, starting in Seattle and was Portland, Ore., Manager.

DON SHIRLEY APPOINTED

PACIFIC NORTHWEST NOTES

Juliens on Natwick Farm; Flynns "Fit" in Townsend

FRED HOFFMAN, president of Hydraulic Supply Co., Seattle, and his wife, Peggy, were on a two months tour of Europe in early summer.

FRAN FLYNN, new assistant resident manager under *LEO ZIEL* at Crown Z's kraft mill in Port Townsend, Wash., moved his wife, Isabelle, and son, Johnnie, 12, into their new home at 410 Pierce St., near the historic Townsend postoffice. The move ends 20 years' residence in Camas for this family.

JIM JULIEN, assistant to Res. Mgr. *GEORGE GALLAWAY* at Camas, Wash., mill of C-Z, and his family have "inherited" the big Natwick fruit and cattle farm at Washongal, high above the Columbia River. *BUFF NATWICK* and his wife, Cece, of course have moved to Evadale, Tex., where he is resident mill manager of new East Texas Pulp & Paper Co.

RAY SMYTHE, DAVE HARRIS, BILL DARMSTADT, JACK WILCOX, HALVAR LUNDBERG, MEDER JOHNSON and quite a few other suppliers of equipment to the new Ketchikan Pulp Co., were seeing scenic Southeast Alaska in June and May—when they weren't required at the mill—from Ketchikan and its Ingersoll Hotel.

NEW ESCO DIVISION HEAD

JACK R. CAMPBELL is new Manager of Stainless Cast Specialties Div. of Electric Steel Foundry Co., Portland, Ore., working under direct supervision of JACK WILCOX, Manager of Esco's Process Equipment Div. Mr. Campbell was born in Rhode Island, raised and educated in New York, has been with Esco since 1950.

Continued on page 79

WOODPULP—on the move!

Weyerhaeuser woodpulp courses steadily along the economic by-ways of the nation, finding its way into hundreds of diversified end-products that improve our daily living. Vast, varied industries depend upon an uninterrupted supply of this essential raw material which is such a vital part of the American economy.

Less than a quarter of a century ago, a large portion of a tree that could not be economically converted into useful products was burned or allowed to rot. Modern concepts of full wood utilization and sane forestry management were not then economically feasible.

Today, Weyerhaeuser Timber Company processes convert the tree's raw materials into useful and marketable products. The best possible value and utility are obtained from each tree harvested.

Diversification in processing is the key to complete wood utilization. New products from woodpulp mean expanding markets and steady payrolls.

Good forestry practices plus laboratory research assure industry of a long-term, never-ending supply of Weyerhaeuser woodpulp.

NOW

PENNSALT OFFERS 3 BASIC CHEMICALS FOR BETTER PULP

1. CHLORINE 2. CAUSTIC SODA

NEW 3. SODIUM CHLORATE

PENNSALT, long a supplier of Chlorine and Caustic Soda to the pulp and paper industry, also offers Sodium Chlorate—a chemical improvement for better pulp refining.

Using Sodium Chlorate in a generator in your own plant, you can produce Chlorine Dioxide. This chemical bleaches wood pulps whiter and brighter than common bleaching agents.

Chlorine Dioxide does not harm the pulp's physical or chemical properties, yet it has the power to destroy wood and bark specks and thereby give a cleaner end product. Because of this bleach's powerful, selective action, woods ordinarily considered unfit may be used to make quality pulp.

To help you put the process to work in your plant, Pennsalt offers both service and supplies. Experienced engineers will help you design a generator and initiate the process. Pennsalt's Portland, Oregon plant can supply you with commercial grade Sodium Chlorate, 99% guarantee, fine crystal size, in drums or tank cars.

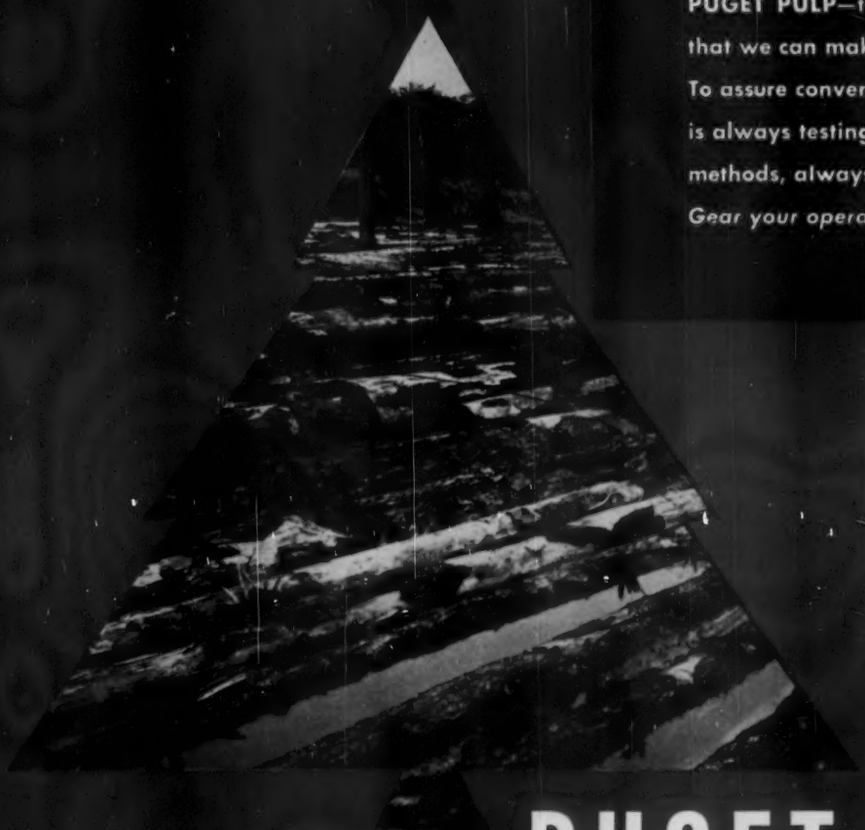
Write for more information on this outstanding new bleaching process, or on Pennsalt's Big Three—Chlorine, Caustic Soda, Sodium Chlorate.

Pennsalt Chemicals

DISTRICT OFFICES AND TELEPHONES

Berkeley 4, Calif.—Ashberry 3-2537 • Los Angeles 11, Calif.—Jefferson 6244
Portland, Ore.—Atwater 7655 • Tacoma 1, Wash.—Market 9101

PENNSYLVANIA SALT MANUFACTURING COMPANY OF WASHINGTON
2901 Taylor Way, Tacoma 1, Washington



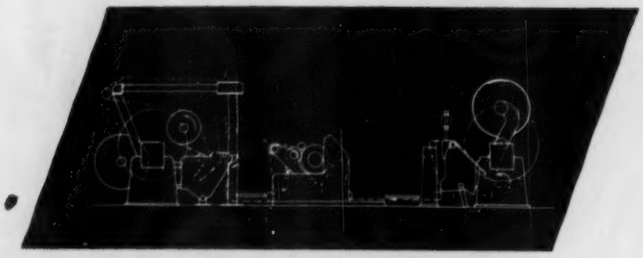
PUGET PULP—the *whitest, cleanest, bleached sulphite pulp* that we can make is produced *particularly for the market.* To assure converting mills of top quality, Puget management is always testing new processes, always alert to improved methods, always ready to install new designs in equipment. *Gear your operations to* ***PUGET PULP.***

PUGET SOUND

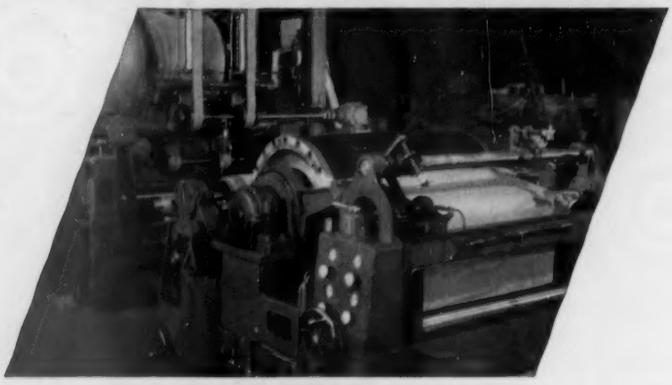
PULP AND TIMBER COMPANY

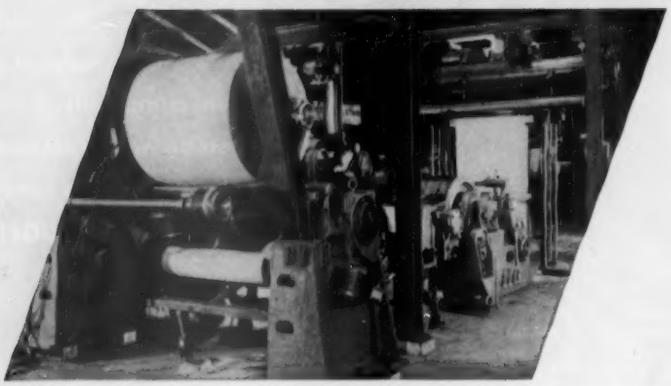
BELLINGHAM · WASHINGTON

You buy experience...



WITH DILTS POLYETHYLENE EXTRUSION LAMINATOR





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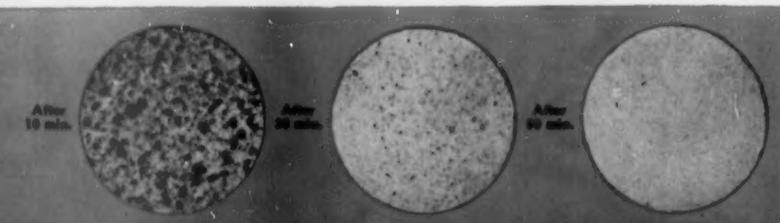
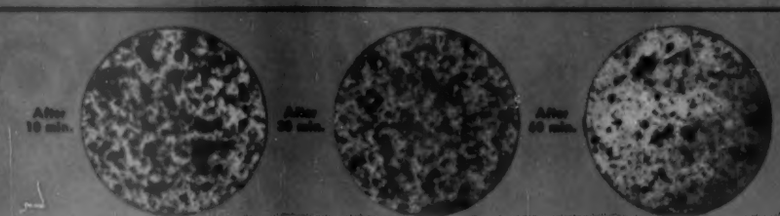
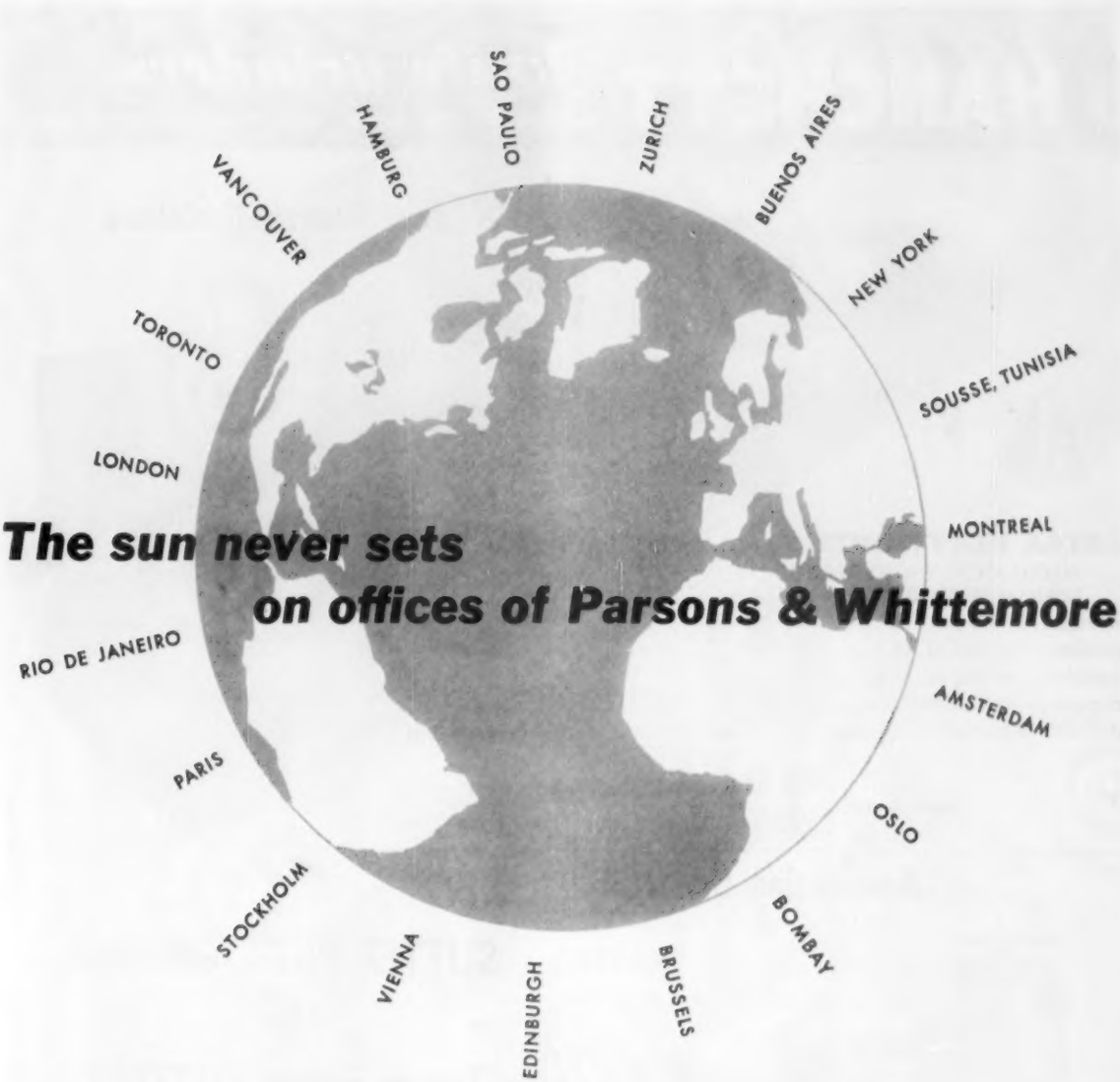
Actual unretouched "shadowgraph" photos of papers made of stock taken from run of hard-pressed unbleached pulp in PULP-MASTER with Mark II Rotor, at intervals shown.



Actual unretouched "shadowgraph" photos of papers made under same conditions from same stock while being defiberized by conventional pulping method, at intervals shown.





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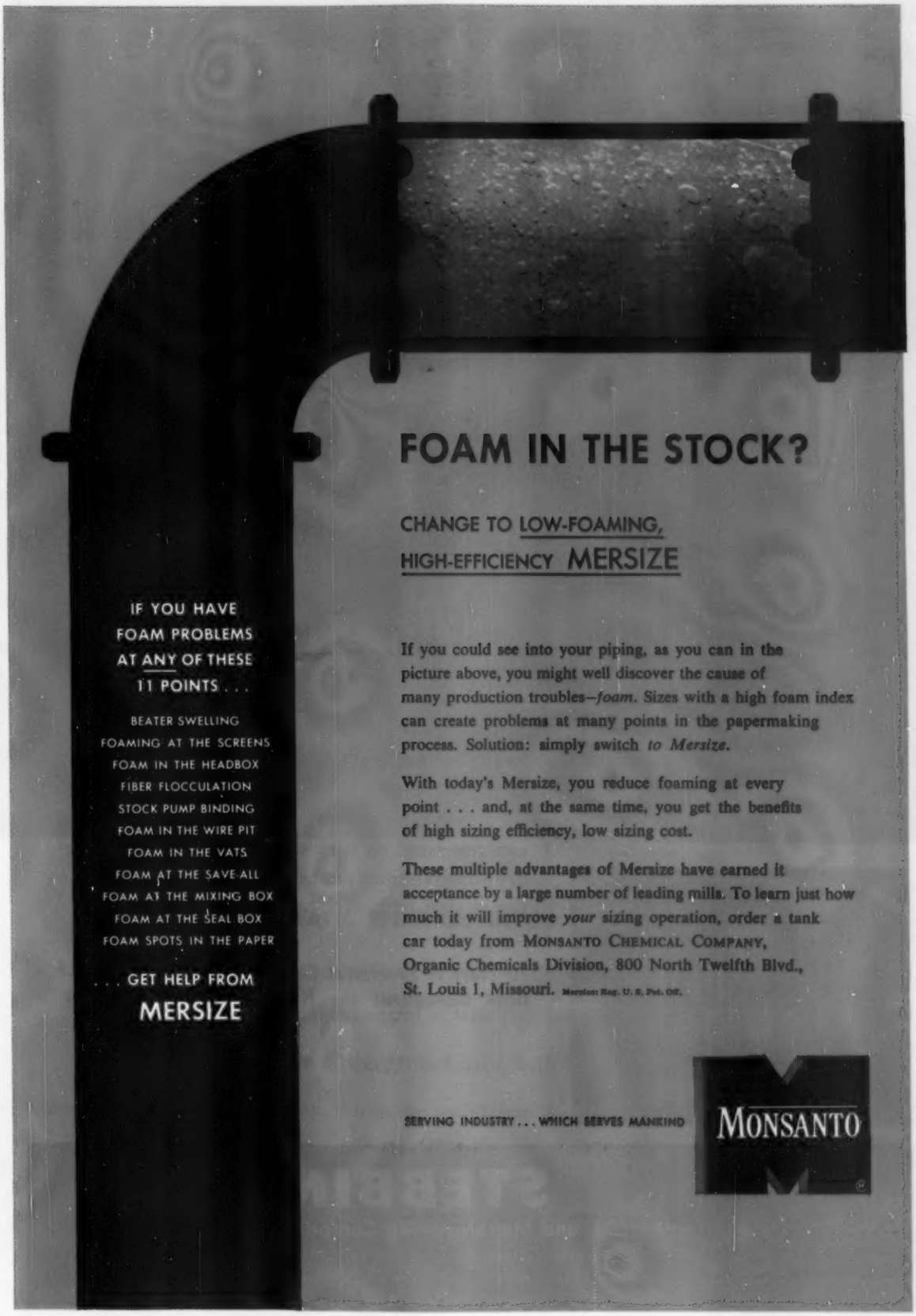
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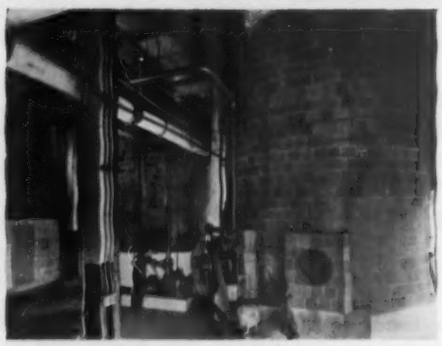

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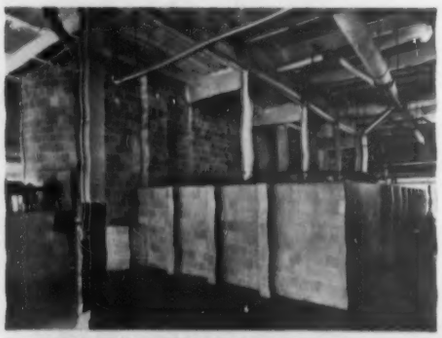

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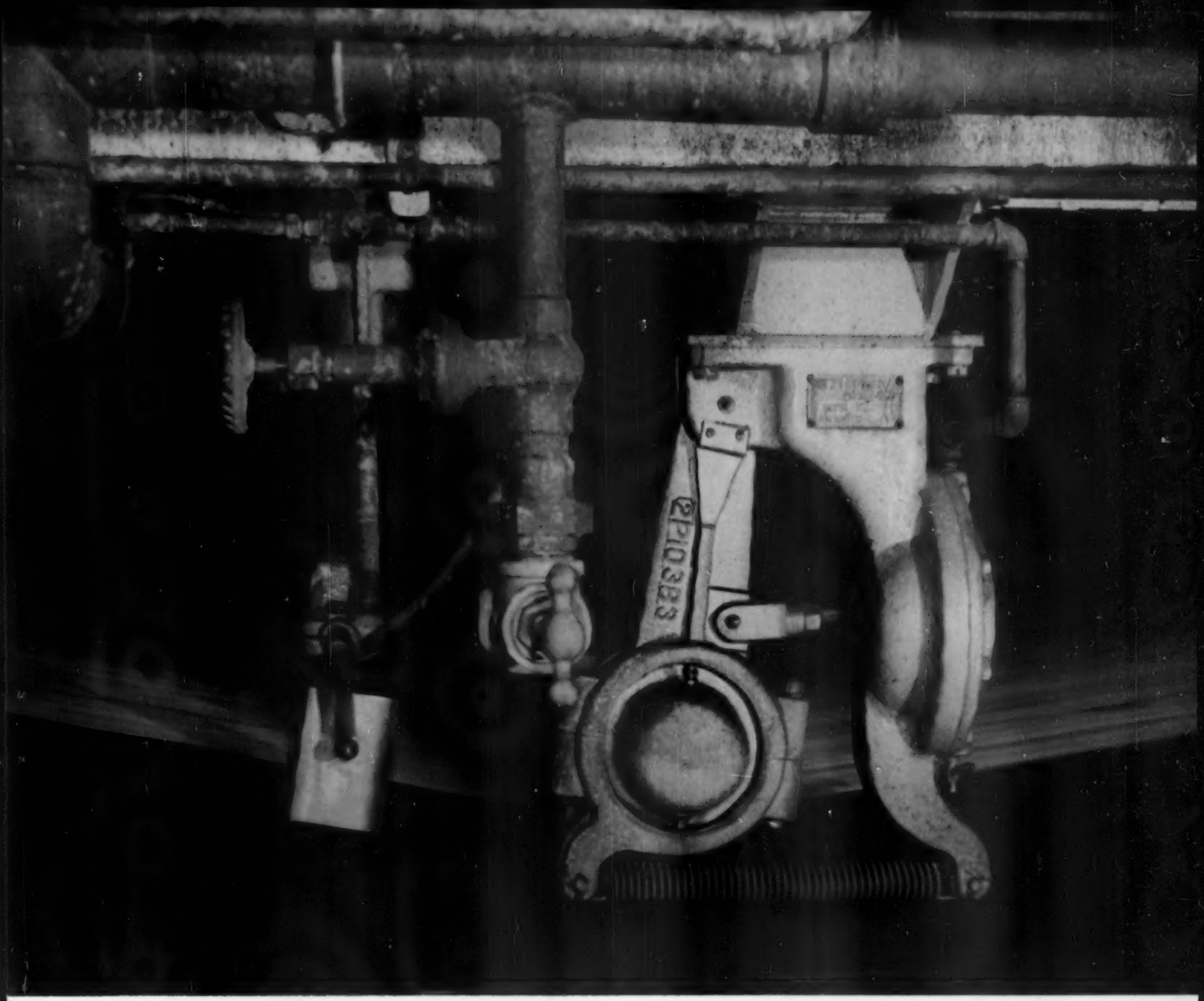

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That's the kind of brightening job "Virginia" can do on your groundwood pulp. That's the kind of savings which use of our reducing agent puts in your pocket.

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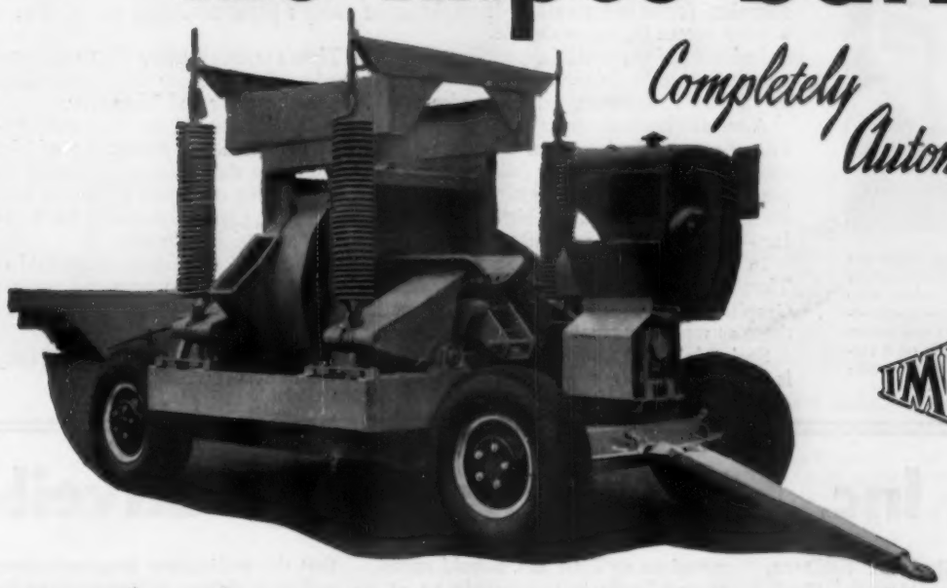

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Capacities up to 20 cords per hour depending on conditions, size and type of wood can be expected.

SPECIFICATIONS:

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Feed Rate—30 to 120 f.p.m
Infeed and Outfeed Conveyers—Automatic, self-centering, self-sizing
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CHARLES L. STILLMAN, Executive Vice President and Treasurer of Time, Inc., New York, which publishes Time, Life, Fortune, Architectural Forum, and House and Home. He authorized this article on a far-reaching program of great importance to PULP & PAPER.

The Story Behind This Authoritative Article

POTENTIALLY OF FAR-REACHING effect on the production of printing papers and on the general welfare and prosperity of the entire pulp and paper industry is a research program being carried out by Time Inc.

It might well lead to revolutionary changes in the pulp and paper manufacturing processes. In fact, it already has had an important impact. For example, it might stimulate forest conservation. It might make today's paper machines out of date to a large extent in, say, a decade.

Learning of the possible great importance of Time's research plans, PULP & PAPER went direct to "headquarters" and was authorized to do this story for this industry by Charles L. Stillman, executive vice president and treasurer of Time, Inc.

A tremendous consumer of printing papers, this publishing house produces Time, Life, Fortune, Architectural Forum, and House and Home. Its pioneering of high speed mass production of "slick" paper magazines was the principal stimulus for the development of modern high speed on-machine coating of paper. In several mills there are machines today which are continuously making paper exclusively for Time, Inc.—day after day, year after year, and at higher and higher speeds.

In the Jan. 1946 issue of PULP & PAPER, an illustrated exclusive article told of Time's early research work in Kalamazoo, where it built a then new and modern Graphic Arts Laboratory and its own coating mill. It also owned a big paper mill there as well as several other mills, because there was a paper shortage.

Springdale Laboratories, successor to the Kalamazoo Graphic Arts Laboratory, is four times as big physically—its horizons are many times greater.

Time Inc. Laboratory May Unveil New

LATE IN 1944 Chas. L. Stillman, executive vice president of Time, Inc., went to his board of directors, asked for, and got, an initial budget of $200,000 to institute preliminary research in the printing field. It amounted to "research into research."

Ten years and $12 million later researchers for publishers of *Time, Life, Fortune, Architectural Forum* and *House and Home,* have carried their printing research to the stage where it is now deemed desirable to channel it into the pulp and paper field.

Work will be directed from the laboratories of Time Inc. at Springdale, Conn., and approximately $1,750,000 has been budgeted in 1954 to further the labors of the 100-man research staff, with a large share pin-pointed for preliminary investigation of the pulp and paper industry.

Clear-cut was the motive behind the original bequest for research, and as clear is the reason behind the extension of the work to this industry. Unofficial trade sources have estimated for PULP & PAPER that Time-Life's annual production and distribution bill is over $80 million —of which about one-half is for the purchase of printing papers.

With such a large stake involved in printing and paper, it is only natural that an enterprise of such dimensions as Time Inc. should spend money freely in research in an attempt to effect overall savings in supplies, production and distribution, together with better quality and speeds.

Present major suppliers of paper for Time Inc. include: Consolidated Water Power & Paper Co.; Champion Paper & Fibre Co.; Mead Corp.; St. Regis Paper Co.; International Paper Co., and Crown Zellerbach Corp.

Time Offers Money—Experience

R. E. Fisher, director of the Springdale Laboratories, told PULP & PAPER that he feels his technicians, through their 10 years' work on printing problems, have developed a talent for engineering analysis, "imagineering" and development that can be useful to the pulp and paper industry. They offer these facilities, manpower and laboratory equipment, to the tune of $1,000,000 to $1,500,000 a year, in what they hope will be a cooperative effort with the manufacturers of pulp and paper, as well as the suppliers of equipment for these processes, to make paper better, faster and cheaper.

Mr. Fisher carefully points out that Time has learned, through its Springdale experience, that it will encounter a large share of failures. But the fundamental lesson has been that the willingness to spend money and risk failure is essential to the winning of success. Time after time, Springdale researchers have found in their failures the key to a successful development.

Although Time-Life people are appreciative of the large amounts of money now being spent in research by the pulp and paper industry, they consider the expenditures insignificant when compared with other important industries, and in the light of the job that must be done. Time is willing to contribute its share to this research with sizable amounts of money, and would like to make its Springdale plant a focal point for the resolving of mutual problems of the papermaker and the printer.

What Springdale Has Done

As Mr. Fisher points out, his initial $200,000 was to "experiment with experimentation." They had to get at the real problems in the printing industry and determine what they could do about them. They found the problems so great, they enlisted the help of others with similar interests. Among these were Aluminum Co.; Dow Chemical Co.; Eastman Kodak; Du Pont; Chrysler Corp.; Raytheon, etc. From their contacts with these existing research facilities and the findings of their own men sprang a real program.

HERE'S WHERE PAPER HISTORY MAY BE MADE

LABORATORIES OF TIME, INC. at Springdale, Conn. Work in the printing industry will be followed by research on pulp and paper with $1,500,000 annual budget.

Horizons to Pulp and Paper

From its work with Alcoa came the laminated printing plate—which cost over $1,500,000 in development. It then took four years to convince the printing industry to gear to its use, but now it is saving Time more than $2,000,000 annually and producing higher printing quality.

The development of the plate led to the development of a new kind of internal lockup press cylinder, similar to that used in newspaper printing but formerly considered too expensive for magazine printing use. It cost another $250,000 to bring this work to successful conclusion. When this development can be given general application to Time Inc.'s publication production, savings in the order of over a million dollars per year will accrue in paper usage through the ability to nest plates closer on the press and cut down web width.

Higher press speeds brought need for faster drying inks. Time engineers developed an ink which would dry at extremely high speed but found that existing ink distribution systems couldn't handle it. So they went to work on a new distribution system. The new system is said to be simpler than any ever built and it can be enclosed to maintain controlled climatized conditions. Some say this system is the greatest advance in press development in the past 50 years.

With the new distribution system came a new drying system. Time men worked first with high frequency, and later with high speed air drying. Neither worked—but the failures led to a system that did work and which can now dry paper at 2000 web feet per minute.

These new components of press operation were then brought together in a joint project with Goss Printing Press Co. Time and Goss have spent $1,500,000 in building this first press and folder (now in operation at Springdale) and Time is planning on spending $20,000,000 for from 10 to 15 of these new presses over the next four or five years. This new press will hit speed records of 2,000 fpm, with high quality and better manpower utilization. Incorporated in the press, by the way, is a folder which also had to be "imagineered" to do its job at new high speeds.

Next step in printing plant operation was to find how to do the binding job cheaper and faster. Time, Inc. went to Dexter Folder Co. with this job. Here again, money was matched with ideas for new development work, and the result was a bindery operation exactly 100% faster than that previously in use.

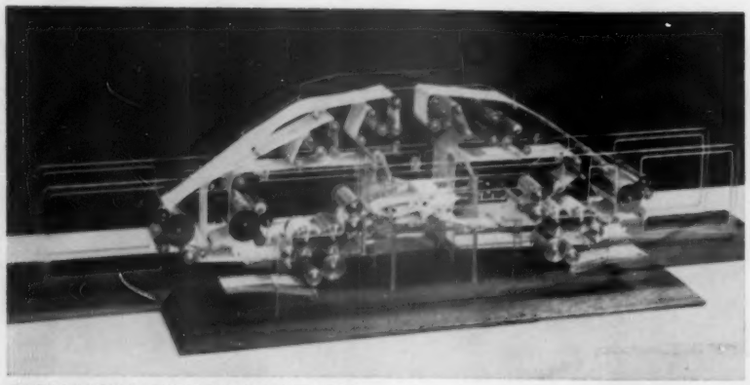
Early in its work the Springdale laboratory worked out a cooperative agreement with Eastman Kodak for carrying on development of the electronic color scanner. It has cost $1,400,000 to bring this project to successful completion—but it is now in operation and more than 30 color pages have been reproduced in *Life* during the past few months, with plates made from color-corrected separation negatives made by the scanner.

With postoffice costs going up, Springdale men have turned early attention to paper in an attempt to get a lighter sheet, but with comparable "feel" and printability. In cooperation with R. T. Vanderbilt they have developed a 40-lb. sheet which they say is comparable in every practical way with the 45-lb. sheet presently in use. About 1500 experimental tons of this paper have been made by The Mead Corp. and Consolidated Water Power & Paper Co. Calcium silicate has been used as a filler in this experimental paper. If this paper proves commercially satisfactory, it will save Time-Life more than $800,000 per year in distribution costs alone.

When all these things are brought together, and as the new developments get into full commercial use, the savings to the Time-Life magazine group are expected to reach $10,000,000 annually.

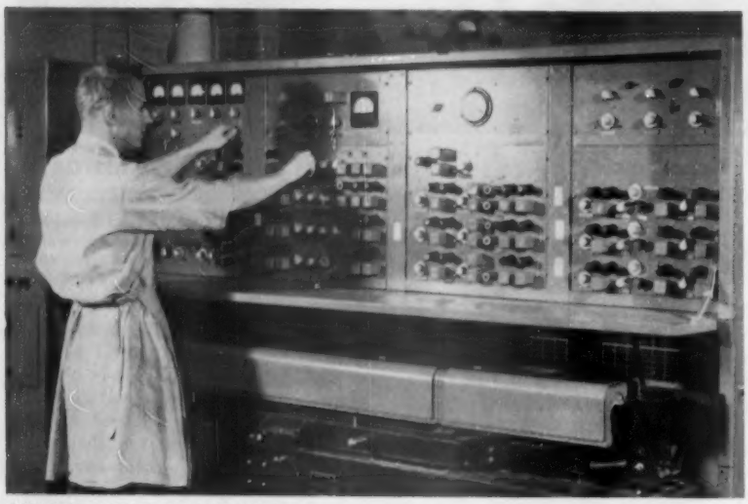
Benefits to Paper Industry

As mentioned previously, Time Inc. hopes to get into its work with



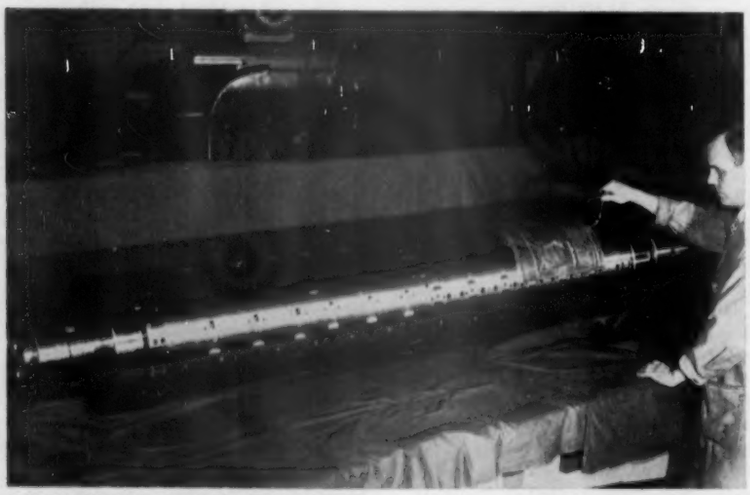
PRESS HITS SPEEDS OF 2,000 FPM

TIME-LIFE so far has invested $12,500,000 in research and development. The Time-Goss printing press, developed for $1,500,000, of which this is a scale model, incorporates features developed separately in Time's program.



SPEEDS MULTI-COLOR WORK

ELECTRONIC COLOR SCANNER is typical Time Inc. development. Eastman Kodak cooperated, and result is scanner which can turn out color-corrected separation negatives for 4-color engravings in hours instead of weeks.



SAVES MILLION DOLLARS A YEAR

ONE DEVELOPMENT fosters another. This revolutionary internal lock-up cylinder was a direct result of the development by Time of the laminated printing plate. It saves Time-Life over $1,000,000 a year.

the pulp and paper industry on a fully cooperative basis. Time is willing to risk its money and expects its risks to be matched. And it feels that the knowledge gained by its Springdale engineers in printing research and development is the perfect complement to the experience of the pulp and paper industry in research and manufacture. Time is prepared to put up enough money to get the job done, but the spending will start out slowly. Mr. Fisher says they are not looking for "revolution" but "evolution," and he hopes their considerable talents will help speed evolution for greater profits to all concerned.

High level men from Crown Zellerbach, St. Regis and Consolidated have already spent time at Springdale, and it is expected from these early contacts will come definite plans for cooperative research.

In their work with the printing industry, Time-Life researchers found it was built on the idea that depreciation of equipment was the greatest cost factor. Study revealed, to Time-Life's satisfaction at least, that manpower is the big factor in printing and that you can afford to make equipment obsolete when you increase manpower utilization.

In this industry, Time may do these things: Show it is economic to obsolesce a Fourdrinier every 10 years; develop entirely new horizons on speeds; challenge the whole present coating process and the present methods of drying, supercalendering, finishing and bleaching, as well as the pulping process and the losses incurred in producing long fiber pulp, and also present methods of controls and measuring—particularly on moisture.

How Springdale Staff Operates

Before any money is spent at Springdale on a specific project, an economic study is made to see how much the successful conclusion of the project would save the company in money. These studies provide clues as to projects on which to place the full pressure of work.

Once a project is approved from the economic point of view, then the job is turned over to the researchers, and it is the job of the director (Mr. Fisher) to see they have the tools, manpower and funds to carry on their investigations freely in channels of their choosing.

Associated with Mr. Fisher in the Springdale work are: David Taylor, who directs economic studies and the work of the methods engineering department; Harry W. Faeber, mechanical engineering department; Nathaniel Bishop, electronics de-

partment; Dr. Robert Leekley, chemical department; Paul Thoma, in charge of testing, evaluation and development; Thomas Redstone, business manager; and Frank Mulford, plant manager.

These men comprise the research management team at Springdale, and they make a practice of meeting each Friday to discuss problems and coordinate work of the 100 persons in the laboratory.

The physical plant at Springdale, Conn., is impressive in itself. The original research work initiated by the efforts of Mr. Stillman was done at Kalamazoo, Mich.

(Time-Life's Graphic Arts Research Laboratory in Kalamazoo, since sold to St. Regis, was described in an exclusive illustrated article in PULP & PAPER's Jan. 1946 issue.)

But by 1947 the work and budget had grown to such an extent that Springdale came into being. The present plant has approximately 40,000 sq. ft. of working area (compared to 10,350 sq. ft. it had in Kalamazoo), and a good part of $7,500,000 spent in the past eight years has gone to building up the effective working equipment.

Where Can Costs Be Cut?

Mr. Taylor, who is conducting present economic studies of the pulp and paper manufacturing process, is looking to pinpoint the areas of greatest cost and the best potential for cost reduction. He expects to spend at least the balance of this year just evaluating and studying the economics of the industry before any definite project is proposed. He realizes, he says, that the pulp and paper industry has done a very great deal of research and is still doing much, and that its knowledge of basic problems is much greater than that of the printing industry when Time began its work there.

THIS TEAM MEETS ON FRIDAY

PROJECTS MANAGEMENT committee coordinates Time Inc. research: From left, around table, are: THOMAS E. REDSTONE, Business Manager; PAUL THOMA, Development; HARRY FAEBER, Mechanical Engineering; R. E. FISHER, Director of Research; DR. ROBERT LEEKLEY, Chemistry; DAVID TAYLOR, Methods Engineering; and NATHANIEL BISHOP, Electronics. FRANK MULFORD, Purchasing and Plant Manager, was not present.

There is at present no pilot equipment of any kind for pulp and paper at Springdale, and any expenditures along this line will be withheld until the process of attack is determined. It is natural for the industry to speculate, of course, on the part East Texas Pulp & Paper Co., Evadale, Texas, which is owned 50% by Time Inc., might play in providing facilities for commercial experimentation, although the Springdale men had no comments to make on this possibility.

To carry this speculation further, it seems quite within the realm of possibility that East Texas will end up with a machine incorporating ideas evolved by Time's researchers. This would be economic in the sense that a machine at East Texas would be close to a pulp source, and it would be in commercial operation, while one at Springdale would cost millions and would end up being purely experimental.

Three fairly well-defined ways the Springdale work may go include (1) research to increase machine speeds; (2) to obtain better yield of pulp; and (3) to cut waste of paper on printing presses. They are interested in developing lighter weight papers if capacity and tear strength can be maintained.

One specific endeavor will be to increase the speeds of coating. Experimentally, Time has coated at speeds of 1500 feet, and Harry Faeber, whose first coaters are in operation at St. Regis plants at Bucksport, Me., and Deferiet, N.Y., says it will be "duck soup" to get speeds up to 2,000 fpm.

Time's plans for work on pulp and paper research are not for the future—but now. It has the incentive, the talent and the money. What Time hopes to find is a receptive industry that will want to cooperate with matching facilities in developments that will result in lower costs for Time and greater profits for the pulp and paper industry.

MACHINE SHOP MAKES EQUIPMENT FOR LAB USE

TWO VIEWS at left show part of Springdale Machine Shop operation which enables Time Inc. to manufacture machines in limited quantity directly in the laboratory. At right, one of the machines—a laminator —under construction to become part of laminated plate processing machine line. Conference in the third photograph is between shop supervisor and members of engineering department. Heavy machine work is usually jobbed out, but often necessary to do heavy work in the laboratory due to the extreme problems that crop up.

MILLIONS OF FIBER BOXES NOW USED

TAKING PLACE OF WOOD are these so-called ½ fiberboard boxes being packed here with lemons by Sunkist Growers of California. Millions of these containers are now being used.

Fiber Containers Conquer New Worlds— Here's How Wood Boxes Lost 2 Battles

A PACKING and shipping "revolution" has taken place in the citrus fruit and lettuce producing worlds of America.

Inquiries made in California and Arizona by PULP & PAPER reveal that in both of these important agricultural fields—the vast lettuce and the lemon-orange-grapefruit producing areas—a widespread and drastic changeover has been made from wooden crates to fiberboard shipping cartons. A changeover was less rapid but is now coming fast in Florida where a late April meeting of the Fourdrinier Kraft Institute in The Inn, Ponte Vedra, Fla., heard of progress in this research and development.

The Citrus Container Institute of Bryn Mawr, Pa. (John Brossard, managing director), has been organized since 1950 to carry on work inaugurated five years by the Fourdrinier Kraft Board Institute.

The Citrus Experiment Station at Lake Alfred, Fla., the Institute of Paper Chemistry at Appleton, Wis., and railroad carriers assisted in development of a container meeting rigid specifications and performance requirements, chemically treated to retard shrinkage and decay in fruit. These containers are no longer experiments—they are built for withstanding long shipment. They were finally approved last year by the Florida Citrus Commission, and just a few months ago by the Association of American Railroads.

The first battle for fiber containers over wood was won back in 1908 when they were accepted generally for the same freight rate. Now over 6,000,000 tons of paperboard are consumed annually in the U.S. for corrugated fiberboard containers for many purposes—replacing not only wood (thus conserving timber resources), but glass, metal, etc. The beer industry is a classic case of a converted industry.

The Florida citrus containers are now eligible for shipments at low rates provided in Southern Freight Bureau Container and Loading Rules Tariff 823B. A PULP & PAPER editor in Ponte Vedra, Fla., this spring, at time of the FKB Institute session there, learned that more very important technical improvements may be expected in the near future.

Reports from California

In the California citrus field, the Los Angeles editor for PULP & PAPER reports that citrus field research on use of fiberboard cartons began with a study of the Citrus Industry Research Association, working with Dr. Roy J. Smith of UCLA as consultant, and with L. M. Smith, plant manager of International Paper Co.'s container division, Los Angeles, and other manufacturers of fiberboard cartons.

Seven large box manufacturers have formed the Western Fresh Fruit and Vegetable Container Institute, offices in Oakland, Calif., in order to carry on research in fiber-

board shipping containers. Members of the Institute, which meets once a month, are International Paper, Fibreboard Products, Container Corp. of America, National Container Corp., Pioneer-Flintkote, Kieckhefer Container and Longview Fibre Co.

The Institute started a program of testing of citrus containers which can be adequately reproduced and which will meet standards required by shippers. These performance tests were to be completed this summer.

Millions of Containers Replace Wood

In the citrus industry, lemons were the first to be packed and shipped in fiberboard containers. Fruit Growers Supply Co., an affiliate of Sunkist Growers, which during 1952-1953 marketed upwards of 46 million boxes of citrus fruit in fresh and processed form, reports that 79% of the lemons produced by its members in 1952-1953 moved in corrugated fiberboard cartons. Four percent of the navel oranges and 9% of the Valencias were so shipped.

Lemons, oranges and grapefruit are shipped in the ½ box standardized by California law. Inside dimensions of such a box are 9¾ to 10¼ in. in height; 11 in. width and 16¾ in. length. This type of carton uses a corrugated inside collar. Citrus is sold on a count basis, that is, so many to a ½ box.

In the trade this new box is popular because it is light (easily handled by woman workers), and easy to work with at the point of display. It can also be used as a tote box.

It was found that by using the fiberboard container, small stores could carry a wider range of size of fruits, with resulting greater profit to the retailer. These containers have a much lower tear weight (which is the difference between the weight of the contents and the gross weight), amounting to somewhere around 10¢ a standard box saving. It was also found that there were less injuries to handlers.

Manufacturers of such boxes had to take into consideration that, in shipping, these ½s are stacked in railroad cars and trucks. Therefore they had to meet rigid strength tests.

It is estimated by one container manufacturer that 15,000,000 lemon boxes were used by California and Arizona citrus growers in 1953. There were 4,000,000 containers used for oranges.

Not to be overlooked is that an impelling reason for this change in shipping containers is the fact that there is a considerable saving to the shipper in the cost of fiberboard as opposed to wooden crates and further savings in shipping costs.

Mutual Orange Distributors, with offices in Los Angeles, reports that the use of fiberboard containers in shipping lemons by its members was 100% in 1952. Vented cartons for shipping oranges found a 15% usage in 1952-1953 and it is expected there will be a complete conversion among the members to paperboard cartons.

Mutual also reports an interesting advantage of the new fiberboard cartons, as demonstrated by one of its members. Lemons packed in the new container for overseas shipment were found to be virtually pilfer-proof, as opposed to the wooden box. From one grower came one of the largest export shipments of lemons, 2,000 boxes destined for European markets in 1953.

Container Corp. of America worked closely with Mutual Orange Distributors in the design and manufacture of the cartons now being used by its members.

Permits Protection Against Mold

The new citrus shipping containers permit the use of a protection against blue mold decay. This diphenyl (a fungistat), with melted paraffin as a carrier, is added to the corrugated collars of the boxes. The container manufacturer passes the box blank through a machine which deposits coatings of the material on the inside.

The delay in conversion of orange and grapefruit shipments from wood to fiberboard containers has been caused by the fact that oranges and grapefruit are washed in warm water immediately on unloading in the packing houses and must be cooled before packing in closed containers. Those houses which have cooling rooms are rapidly converting to packing in fiberboard containers. Others are adding cooling facilities.

Sunkist's Placentia Orange Growers is said to have pioneered the shipment of pre-cooled oranges in cartons successfully and it is believed that most, if not all, of the orange houses who have cooling facilities will soon follow this lead.

Fruit Growers Supply Co. reports experimentation with several types of containers, such as a fiberboard carton with wood panel ends; and one with solid wood ends for past-

PAPERBOARD TOTES APPLES

NEW TYPE of fruit container made of kraft liner and corrugated board by Canadian Boxes, Ltd., is displayed here by Mrs. Rosa Collette, plant operative.

HERE'S NEW WAY FOR LETTUCE

(Top) LETTUCE GROWN in California Salinas Valley is packed as shown here in fiberboard cartons, generally 24 to a carton, without ice, as opposed to the older method of icing in a wooden crate.

(Center) THE FIBERBOARD CARTONS are stapled on machines carried to the California fields by truck, ready for filling with lettuce heads by field-workers.

(Bottom) THIS TRUCK will take lettuce-filled fiberboard cartons from fields to vacuum-cooling sheds. The dry-packed cartons pass through tubes for cooling. Each carton weighs around 37½ pounds. Wooden crates, formerly used, weighed twice as much. After cooling the cartons are ready for shipment all over the country.

ing-on labels. Experimentation has also been carried on with aluminum foil laminated to the inside of the carton. Some work has been done with solid-colored cartons. Further refinements of carton design are expected to permit better fitting of the containers into railroad cars.

Why Lettuce Now Goes In Fiber Boxes

IN THE GREAT lettuce-growing valleys of Salinas and Imperial the change-over from packing lettuce with ice for shipment, to dry field packing and vacuum cooling, permitted growers to shift from wooden crates to fiberboard containers.

From Brawley in the Imperial Valley comes a report that in 1953 5,056 carloads of dry-pack lettuce in cartons left the valley, as opposed to 1,208 carloads in ice-pack crates.

The new method of packing in the fields and vacuum cooling at shipping centers has affected 80% of the Imperial Valley's lettuce crop. The fiberboard cartons are preferred by shippers and retailers because women employes can lift them easily and because of the great reduction in shipping costs.

A spokesman for Western Growers Association of Los Angeles, interviewed by PULP & PAPER, stated recently that the impetus in the change-over from ice-pack to dry-pack and the use of fiberboard containers came from the traffic manager of one of the Salinas Valley packers. This Western spokesman also sums up the advantages of the fiberboard container as (1) a freight differential of around 9¢, (2) a greater car capacity, (3) lower labor costs and (4) easier handling at retail level. A railroad car took an average of 320 wooden crates per car; 640 fiberboard containers can now be shipped per car.

Two cartons are authorized now in the tariffs of the railroads: No. 7300, 9½x13½x20½; and No. 7301, for larger heads, 9x13x21⅝s. Permit is being sought now for a carton 10½x15x17 for shipping even larger heads of lettuce.

The manufacturers of the fiberboard cartons for use by lettuce growers have the problem of wet strength; in citrus, this is not a factor. Lettuce shipping containers must have a 100-lb. per sq. in. wet strength. No collars are used in lettuce containers.

One paperboard container manufacturer estimates that the consumption in 1954 of containers in the lettuce-growing California-Arizona area will be around 50,000,000.

Looking at the potential for fiberboard another way, we find that in 1952, 73,000 carloads of lettuce were shipped by railroad from Arizona and California, and 90% of California lettuce is being dry-packed and pre-cooled in paperboard cartons. Such cartons are, largely, built with vents, with space between the closing lids on the top.

The fruit and produce growers of California and Arizona are not stopping with the application of fiberboard containers to citrus and lettuce. Carrot packing is next on the list for use of fiberboard containers. As a matter of fact, some carrots, topped and packed in polyethylene consumer bags, are already being shipped in fiberboard containers, eliminating the use of ice.

A 40-lb. tomato box has been developed in Florida and its use will probably spread into California and Arizona.

Celery also presents a likely candidate for shipment in fiberboard containers; it is predicted that soon the deciduous fruits will be shipped in fiberboard.

During the past few months several interesting developments have taken place, in connection with the increased use of fiberboard containers. One concerns the sale by Fruit Growers Supply Co. of an 82,000-acre tract of virgin pine timber to the McCloud River Lumber Co. at McCloud, Calif. This tract was acquired to assure a supply of pine timber for the manufacturing by Fruit Growers Supply Co. of wooden citrus shipping containers which have since been outmoded by the new fiberboard containers. There are plans, say the supply organization, to build a plant in California to manufacture a new type of container from fir.

Longview Fibre Co. has added two additional 85-in. Langston corrugators for its Oakland and Los Angeles plants in response to new business resulting from conversion of fruit and vegetable shipments from wood to fiberboard.

International Paper Co. in Los Angeles also has added a new corrugator, a Langston unit.

In Canada—Apples Go in Paperboard

One of British Columbia's principal farm products is apples, and traditionally the crop has been packed and distributed in wooden boxes.

Growing shortage of wooden box material, plus the Okanagan valley fruit industry's desire for a lighter, more convenient style of container, led to experiments with various types of package made of kraft liner and corrugated board material.

Two years ago, Canadian Boxes, Ltd., Vancouver, B.C., wholly owned subsidiary of Pacific Mills, Ltd., put a cautious foot in the door of the rapidly expanding apple industry. Today, Canadian Boxes have more than a toe-hold in this new and challenging field. Last year, shipments in this new form of paper container amounted to more than 600,000 boxes of various types, and the average market potential is estimated in the region of several million cases.

This revolution in packaging is the result of cooperation between all companies concerned, a clear analysis of what was required and research and experimental work to produce a variety of containers that would be better than satisfactory.

Certain essentials were required before the desired results could be achieved: (1) The box should be lower in cost and lighter in weight than wood; (2) It should provide full protection for its contents in shipping long distances by rail or truck; (3) The design should be compelling enough to help sell the product; (4) It must lend itself to present packaging operations in the Okanagan.

With these requirements in mind, Canadian Boxes produced a variety of containers, which may be basically divided into three classes:

(1) Tray-Pak—a regular slotted container having an inside liner and utilizing pressed pulp trays to take individual tiers of apples.

(2) Handi-Pak container—a die-cut box having no lid and used for apples, peaches, plums, etc. One of the principal features is that it stimulates impulse buying.

(3) The bushel box style—while definitely in the minority at the present time as to volume, this regular slotted type may have the greatest potential of all, insofar as it simulates the present wood shipper and eliminates the use of trays.

All three classes are currently being shipped to local and Canadian prairie markets, where they have been well received. While impressed by the success of their containers, officials of Canadian Boxes believe that the potential has barely been touched, and research will be continued.

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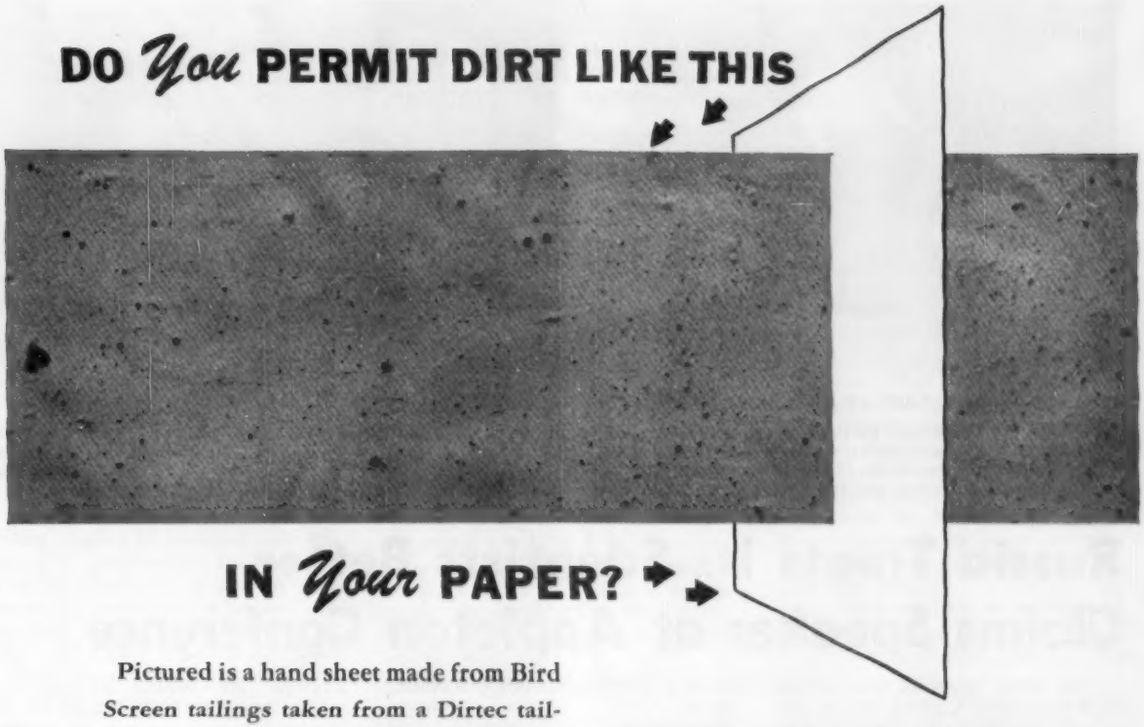

IN *Your* PAPER?

Pictured is a hand sheet made from Bird Screen tailings taken from a Dirtec tailings unit in a mill making high grade book. This mill has other dirt removal methods and equipment ahead of the Screens, but all this dirt would be going onto the wire and into the paper if the Bird Screens weren't on the job.

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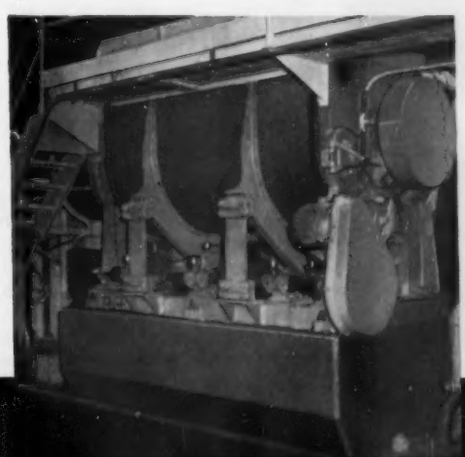

* *A Modern Installation of Bird Screens* is one employing (1) the finest slots that will pass the given grade of stock, (2) adequate total screening area (combined slot width and length), (3) gentle effective screening action, (4) prompt and thorough removal of rejects (now accomplished by Dirtec tailings units).

Note: There are still close to six hundred small, ferrous construction Bird Screens in active service, all of 'em over a quarter century old. They should be retired and replaced by big, modern, non-ferrous Screens.

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LEADERS TAKING PART AT APPLETON EVENTS

SOME WHO HAD PROMINENT ROLES in Institute of Paper Chemistry's Silver Jubilee (l to r): WESTBROOK STEELE, President of Institute and principal factor in its growth; DR. HENRY M. WRISTON, Pres. of Lawrence College when Institute was founded, now Pres. of Brown U.; ERNST MAHLER, Chairman of International Cellucotton; DANIEL K. BROWN, Chairman of Neenah Paper; DR. OTTO KRESS, Technical Director of the Institute from founding until retirement a few years ago; DR. DOUGLAS M. KNIGHT, President of Lawrence College.

Russia Treats Its Scientists Better, Claims Speaker at Appleton Conference

IN THE HOME TOWN of the world's most publicized Commy-chaser, Dr. Henry M. Wriston, one of the founders of the Institute of Paper Chemistry and now president of Brown University, told some 300 top executives of this industry that the U. S. A. "may pay a fatal penalty" for its "phobia about security" and its "irrational belief in secrecy." While he didn't name Sen. McCarthy, most of his talk was a free-swinging attack on loyalty investigations of scientists.

The occasion for the May 20-21 program on Appleton's Lawrence College campus was the 25th anniversary of the Institute's founding there.

A quarter of a century ago, Dr. Harold Bialkowsky, now research director of Weyerhaeuser Pulp Division, and Dr. Roy Davis, now vice president and production manager of Detroit Sulphite Pulp & Paper Co., were the first and only students of the newly-founded Institute. Dr. Wriston was then president of Lawrence and a founding trustee of the Institute.

Today the Institute has a staff of 230 and a student body of about 75, all seeking master's degrees or doctorates, awarded through Lawrence College. Its annual budget has grown from $40,000 pledged by 19 companies to a present $1,400,000, pledged by 128 companies this year.

Spearheading this remarkable growth through all these years has been Westbrook Steele, executive director at the beginning, now the Institute's president. Dr. Otto Kress was first technical director and came back from Florida retirement for the Wisconsin graduate school's anniversary. Dr. Harry Lewis, veteran dean of the Institute, came there its second year. Three surviving original trustees—D. Clark Everest of Marathon, Ernst Mahler of Kimberly-Clark and Daniel K. Brown of Neenah Paper—were also honored and given honorary law doctorates by Lawrence.

THEY HELPED CREATE INSTITUTE

LAWRENCE COLLEGE in Appleton, Wis., conferred honorary Doctor of Laws degrees on these three surviving members of Institute of Paper Chemistry's founding Trustees of 1929. Left to right: D. CLARK EVEREST, Chairman of Marathon Corp. and Vice Pres. of Longview Fibre and Masonite; ERNST MAHLER, Chairman of International Cellucotton and former Exec. Vice Pres. of Kimberly-Clark; and DANIEL K. BROWN, Chairman of Neenah Paper Co. Pres. Henry M. Wriston of Brown, formerly of Lawrence, also was a founding Trustee, as were Hugh Strange, M. A. Wertheimer and L. M. Alexander, all three now deceased.

Communism and Scientists

The address of Dr. Wriston at the North Shore Golf Club dinner was unquestionably the "headline" event of the two days and he made it definitely that by his commentary on atomic research, Russia and congressional investigations.

Here was one portion of his address:

"If every man of science is to be suspected because his social ideas and his political notions are not orthodox, we will destroy ourselves. If we were to ask a business man how to make a hydrogen bomb, no one would expect a sensible answer. There is no more reason to expect a scientist, whose very brilliance

means one-sided development, to give wise answers to moral, philosophical, political or economic questions."

Many listeners thought he was particularly referring to Dr. Robert Oppenheimer, atomic scientist who has been suspended as a security risk, but after the dinner he said he was not referring to any particular case.

He scored what he called "evidence of renewed hostility in high quarters to fundamental research." He said "it is utter folly to let Russia lead the field." He painted a black future if scientists are to be judged by what they do socially, "and do not do well at all," instead of what they do scientifically "and do well."

"Everyone who knows anything is treated with suspicion," he said, citing attacks on business men who go into government and personal risks of scientists who take on secret work. He condemned what he called judging guilt "by association." He also said a short term view of benefits of research "will seriously handicap us in the race with Russia."

Russia Getting Ahead, He Says

"We act like scientists are in surplus—like butter," said Dr. Wriston. "Russia, on the other hand, is doing its utmost to build up a large pool of scientific personnel. The Russian scientist is treated as member of a new aristocracy, with special privileges and bonuses. We will pay a penalty if we assume the rest of the world is populated with dolts and fools. God distributed brains reasonably evenly over the globe."

He called it "monumental folly" to withhold information from our allies, and especially Canada, and "to refuse them cooperation and help."

He asserted that Russia last year graduated twice as many engineering specialists as the U.S.A. He said he was much more afraid of Communism in Russia than in Appleton.

Reports by Steele and Lewis

Pres. Steele of the Institute made his annual report, revealing the phenomenal successful growth as indicated previously. Guests were shown the new 2-story Activities Center, now completed at a cost of $350,000 (see pictures, July 1953 PULP & PAPER). It houses administration, conference rooms, a 204-seat auditorium, a lounge and papermaking museum. This was almost completed a year ago when the Executives Conference was held there. It matches the laboratory building, and growth and additions of buildings for the Institute have followed an architecturally-attractive long-term plan, allowing for more future expansion.

The Museum will house exhibits of Egyptian papyrus, of 150 A.D.; Chinese paper money collected by Marco Polo in the 13th century; samples of handmade Mexican paper, where the first paper in North America was made in the 16th century; Italian watermarks, English papermaking patents, etc. Also displays of historic equipment, photographs, etc.

Dean Lewis opened this year's session, telling guests "it is not easy to interest college seniors in this industry," citing the draft, shortages of students, competition of government and other industries. "We face at least one more scant year for engineers and chemists," he said.

Dr. Lewis predicted: "The population of the U. S. will approach 200,000,000 in the next 25 years, pulp and paper production will ex-

What Next! Future Mills Might Grow Fibers in Vessels Right at the Plant

STAFF MEMBERS of the Institute of Paper Chemistry unveiled glimpses into the future in one of the high peaks of the program at Appleton at the Executives Conference.

They talked of forest genetics, a new Institute program of study (at Paper Week Exec. Vice Pres. Gunnar Nicholson hailed it as the most needed future field of technical development to this industry). Seed improvement and tree species improvement are expected to yield more tons of pulp per acre in the future. Possibly startling increases will be feasible.

Panel members revealed that microscopic plants can be developed to produce fibrous materials for use in pulp and paper, just as microorganisms already are employed to produce food and pharmaceutical materials.

"Because these plants have an amazing productive potential in terms of their size, their combined capacity might exceed anything that we recognized as normal today," Dr. Willis Van Horn, research associate, said. "This mechanism might be adapted to the production of materials which could be used in the manufacture of films or sheets of paper-like material.

"If one lets his imagination flow freely, he can visualize a factory having a series of vessels in which various types of organisms would be growing under controlled conditions and producing materials which are fibrous in nature.

"We have actually produced paper in this way at the Institute," Dr. Van Horn said, "although we are not ready to quote a price per ton."

On the panel with Dr. Van Horn were John G. Strange, vice president and treasurer of the Institute; Donald J. MacLaurin, Dr. Roy P. Whitney and Robert C. McKee, research associates.

Facts they brought out:

Paper use is increasing faster than population growth and output in 20 years is expected to double that of 1953.

In 1975, a demand for about 57,000,000 cords of pulpwood per year is forecast. That would require five times more forest area than the paper industry now controls. Water demand would reach a total of 10 billion gallons per day—about half the daily domestic water needs of all people in the United States. Power needs of the paper industry will equal that presently used by 50,000,000 people.

The basic problem at the moment is that of getting more pulp out of a given area of land, Dr. Whitney said.

Dr. Van Horn predicted possible new hybrids of trees which will grow more rapidly and be more resistant to insects and disease.

"If we could cut in half the average length of time required for a tree to grow, and at the same time improve our pulping yields, the results in terms of opportunities for future industry growth are astounding."

Another panel composed of staff members traced the research history of the last 25 years. On that panel were John W. Swanson, Dr. George R. Sears, Dr. Thomas A. Howells, research associates; C. B. Sitterson, Jr., secretary of the Institute; Dr. J. A. Van den Akker, Dr. Irwin A. Pearl, research associates, and Dr. John A. Stone, research assistant.

The Institute has handled 1,800 research projects, Dr. Stone noted. Many of them were mentioned.

ceed 30,000,000 tons and even go beyond 40,000,000, and the need for trained manpower is bound to grow."

He said the Institute has had 357 students in its 25 years. Those who have left (not present students) total 329, of which 212 are in this industry and 57 are in allied industries. This industry now presents a long list of presidents, vice presidents and other executives who got some of the 128 doctorates and 191 master's degrees earned at the Institute.

Reasons for Institute

Mr. Mahler, one of the Institute founders and long a leader in building it up, said the reason for the Institute was threefold: (1) need of industry-formal education cooperation, (2) need for an authoritative information service on techniques, and (3) need for scientific generalists, instead of specialists, to be industry leaders.

"Quality and intelligence of manpower is the only stick which measures success or failure of any company or the whole industry," he said.

Besides the honorary degrees for Messrs. Mahler, Brown and Everest, presented in the Memorial Chapel by the new youthful Pres. Douglas Knight of Lawrence, posthumous citations also honored Lewis M. Alexander, father of the present head of Nekoosa-Edwards; Monroe A. Wertheimer, former chairman of Thilmany Pulp & Paper and father of R. S. Wertheimer, vice pres. of Longview Fibre, and Hugh M. Strange, former head of Strange Paper and father of John Strange, v. p. and treasurer of the Institute. These three also were founding trustees of the Institute.

Some Case Histories

Edwin W. Schoenberger, dean of men, cited some special cases of graduate research which had served the industry.

In the 1930's, when Institute research was concerned with an additive giving temporary wet strength, student work on flocculation and dispersion of fibers revealed that locust bean gum was an effective agent. When locust bean gum was unavailable in World War II, Institute research sought a domestic gum and guar appeared to be a replacement.

"Student interest in this problem is reflected in such theses as a study of the colloidal behavior of a fractioned mannogalactan from the carob seed as observed by viscosity measurements and effect of certain variables including the presence of borax on the alkaline hypochlorite oxidation of guar mannogalactan," he said.

Sometimes the rewards are more immediate as in 1935 when a thesis was submitted on fundamental attributes of a glassine sheet which affect transparent qualities. A transparency meter developed as a result of the study is widely used in the glassine industry. Student research at the Institute resulted in five patents.

Since 1943, 92 Ph.D. theses have been loaned 328 times and 48 master's theses have been loaned 84 times to companies, institutes and universities.

Summer Employment

Five Institute students and J. Edward Todd, dean of admissions, presented a panel discussion on summer employment. Under the program, paper companies with jobs open for students contact the dean's office. Jobs and men are brought together and reports on the program are prepared by both employer and student at the end of the summer.

Participating were Vincent Russo, White Plains, N. Y.; Richard Cordingly, Colorado Springs; Richard Valley, Binghamton, New York; William Wiseman, Richmondale, Ohio; and Nicholas Jaffe, Anacortes, Wash.

Mythical Corporation

Six third-year students presented a discussion on "dividend policy" of the mythical corporation, the Institute Paper Co. Students discuss and review some of the economic and business problems they later may encounter in the industry.

The course was introduced at the Institute in 1947 after Dr. Ruth Shallcross joined the faculty.

Members argued the responsibility of the board of directors to the company's workers, to the buying public and to the stockholders in deciding how the company's profits should be distributed.

Participating were Jerrold A. Walecka, Highwood, Ill.; John R. Parkinson, Wadsworth, Ohio; Rolland F. Sultze, Jr., Janesville; Wis.; Robert H. Quick, Chehalis, Wash.; Arthur C. Dreshfield, Jr., LaGrange, Ill.; Morris V. Merchant, Lafayette, Ind.; and Howard Baumgarten, research assistant.

AMONG THOSE PRESENT

AT INSTITUTE'S Silver Anniversary were (l to r): CYRIL A. SOANS, of Soans, Gartier & Anderson of Chicago; COLA PARKER, Chairman of Kimberly-Clark, who was a member of the Randall Commission which drew up the Eisenhower program for revision of Reciprocal Tariffs, and PHILLIP WALKER, from London, England.

Watts Dies Suddenly After Institute Affair

Many of the 300 delegates to the Executives Conference in Appleton, Wis., will learn here for first time that Ralph J. Watts, veteran former treasurer of the Institute of Paper Chemistry, died suddenly on a train while returning to his Amherst, Mass., home from the meeting.

Mr. Watts was 69. He died at 5 a.m., May 23, while the train was crossing Indiana eastward. He was Lawrence College administrator and treasurer for 27 years. Also from 1930 to 1944 he was treasurer of the Institute of Paper Chemistry. In 1943-44 he was acting president of Lawrence.

He had gone to Appleton especially to take part in the Institute's Silver Jubilee.

International Research Meet Set in Appleton

An International Fundamental Research meeting is set for Appleton, Wis., Sept. 21-24, with the Canadian Technical Section and U. S. Tappi as co-sponsors.

Dr. Harry F. Lewis, of the Institute of Paper Chemistry, and Dr. Ken C. Logan, director of research for Anglo-Canadian Pulp & Paper Mills and subsidiaries, are heading up the programs.

Egypt Studies Proposals

The Egyptian Government, Department of Industry, Ministry of Commerce and Industry, is still studying proposals by machine builders and others for a new mill to build 20,000 tons a year of writing and fine papers from agricultural residues. Builders were invited to apply.

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LEADERS AT POLAND SPRINGS CONFERENCE

WALTER HOLLAND (left), Mill Manager, Oxford Paper Co., was featured speaker at Coating Conference, stressing the importance of research in business. At right is Executive Committee of conference (l to r): JOSEPH J. THOMAS, general chairman, AL. D. BONANNO, secretary, RICHARD T. TRELFA, chairman, HARRIS O. WARE, chairman, and JOHN DAVIS, general chairman of 1955 conference.

Coating World Hears Of New Techniques

RECORD ATTENDANCE at the Fifth Annual Coating Conference at Poland Spring, Maine, May 23-27 dramatically shows growing interest in coated papers. Highlights of the Tappi-sponsored meeting, according to mill men and suppliers interviewed by PULP & PAPER, were:

1. The registration of over 455—more than twice the number expected; with visitors from 26 states, Canada, England, Brazil, Sweden and Austria.
2. The high level of coating mill management represented—not only operators but all levels of management.
3. Excellent attendance at sessions and lively discussions.
4. The open manner in which speakers freely discussed their operations and answered questions.
5. Invitations extended by Oxford, Warren and St. Regis to visit what were once secret operations.
6. The number of exhibits, many featuring new equipment for coating operations.
7. Glen Sutton's prediction in June PULP & PAPER that within five years over 75% of all folding boxes made in America will be coated was frequently discussed and commented on. Consensus is that Mr. Sutton is right.
8. Frequent reference by several speakers to the importance of better report writing, research and need for increasing stature of technical men on management level.

Research Is Profit

Guests of honor at the Tuesday banquet were Peter J. Massey, well known inventor of coating processes, and Edwin Sutermeister, former Tappi medalist. The latter, recently retired from S. D. Warren Co., was honored by gift of a silver tray in recognition of his achievements.

Walter Holland, mill manager, Oxford Paper Co., Rumford, Me., was guest speaker. Rex Hovey, executive vice president, Oxford, was unable to attend because of illness. Mr. Holland described the dynamic industry in New England, particularly in Maine. Here are some of his statistics: Of 1400 manufacturers in Maine, 46 are paper and allied products employing 14.5% of workers, who get 20% of the payroll dollar. The industry produced 1,300,000 tons of paper in 1952, 12% of the national total; and 190,000 tons of coated paper, 17% of national total. Of 20,000,000 acres in Maine, 17,000,000 are timber and woodlots.

Mr. Holland emphasized importance of research and necessity for its taking its rightful place with management. He stressed the need for developing "generals" and cited Oxford's new research division. Excerpts of Mr. Holland's talk follow.

Management Is Responsible

"The function of research, as viewed by management, is to determine sales substitutes and maintain optimum quality," he said. "We expect research to produce more and better products for our customers. Degree to which we satisfy a customer is reflected in company success. Research has long been considered a fifth wheel. Management has been forced to discard this concept. Research is a catalyst. Today's research determines tomorrow's progress. A member of research should be represented on the management staff," he said.

"At Oxford, a major improvement in personnel has been made, and we have one of the finest research staffs in the industry. We have added new facilities, such as a pilot plant coater, graphic arts research to advance knowledge of our people with regard to printing requirements. To develop our personnel we encourage visits to customer's plants, inplant programs and better human relations."

Panel Is "High Powered" One

High point of interest at the Coating Conference was a panel on research and development, described by Harris Ware, Hercules Powder Co., as the "highest powered panel in the industry."

Russell Savage, Mead Corp., described research as the observation and study of laws and phenomena of nature and their application to practical process. He said that it takes 17 years to organize a research department and get it to function properly. Three steps, he said, are: 1. To organize it. 2. Man it. (He quoted Henry Ford saying, "Surround yourself with men smarter than yourself.") 3. Assign the work.

It doesn't do any good, Mr. Sav-

The Next One

Next National Coating Conference—the 6th—will be at Cleveland, O.

In the *fall* of 1955, according to present plans, instead of the spring.

It will be a joint session with Tappi's Graphic Arts Committee as co-sponsor.

PICTURE TOUR OF SOME OF NEW EQUIPMENT SHOWN AT COATING MEETING

Top row, left to right: MINNEAPOLIS-HONEYWELL low range radiomatic control system, demonstrated by Fred Pimental of Honeywell to William H. Barrett, Minnesota & Ontario Paper Co.; GENERAL ELECTRIC's new paper tensiometer, used for indication or automatic control of sheet tension; KINETIC DISPERSION CORP. Kady mill, demonstrated by L. S. (Jack) Behrns; ABBE ENGINEERING dispersal mixer, with R. P. Waller, Boston rep, and R. A. McEvoy, sales manager; SHEFFIELD CORP's Nelson Emmons Jr. watches working models of testers for paper smoothness, paper porosity and lithograph plate.

Lower row, left to right: EDWIN L. WIEGAND CO. displayed new infrared heating units for rapid drying of coated papers; FISCHER & PORTER Ratogate gate-type valve gets attention of Art Landesman, sales manager, paper division; JOHN WALDRON Corp. exhibit featured roll coating apparatus—Bill Willets of Titanium Pigment Corp. gets pointers from Tony Pomper and Peter Kafka; MOREHOUSE INDUSTRIES mill uses carborundum stone revolving in horizontal plane at high speed; MARTINSON MACHINE Co.'s Ed Hopper demonstrated Hercules Hi-Shear viscometer.

age stressed, to work on a problem for which there is no market. He advised that management should assign projects. He said research men should insist on a budget.

Mr. Savage said that in his opinion research is going to be more expensive because of the tax situation in years to come. Management is therefore going to be more critical, presenting a real challenge to those in research.

Exploratory Research Aims

Gerald Haywood, West Virginia P&P, Luke, Md., stated the prime purpose of exploratory research is to provide basic information to management that will permit information as to whether research is justified. It can originate from management, sales, sales service or operation.

Gilbert Dickerman, Consolidated Water Power and Paper technical director, Wisconsin Rapids, Wis., told his audience to begin with the conventional process pilot plant on a small non-commercial scale to determine cost data, design data for construction of a larger plant.

But sometimes a full scale coater has to be put on your paper machine, said Mr. Dickerman, because it may be the only way to find out what you really have. Such a machine, he claimed, can be legitimately considered a pilot machine.

Should Know End Use

William Kirkpatrick, Allied Paper Mills v.p. and technical director, Kalamazoo, Mich., stressed the necessity of explaining to labor just what management is trying to accomplish in any new development. He divided the technical staff into three groups: 1. Development, who work on a laboratory scale; 2. mill contract group, who are familiar with qualities of paper being made; 3. sales service group. He said he prefers men with practical backgrounds in research. These important men, Mr. Kirkpatrick emphasized, should have good personnel relations not only with supervisors, but also with hourly workers.

Mr. Kirkpatrick said research men must be familiar with the potential end use of the product on which they are working.

Frederick H. Frost, S. D. Warren Co., Cumberland Mills, Me., stressed the need for knowing what the printer wants and said "the only way we can know is to know in considerable detail the materials which he uses."

At S. D. Warren Co., they try to develop tests which tell how the product performs when it is turned over to the printer. The better these tests, he emphasized, the better the relations with printer.

Paper Is Better Than Ever

Paul Thoma, Time, Inc., Springdale, Conn., laboratories, said people in the research end should have another department or means to go to the salesmen and say, "There, chum. Sell this. We can make money on it."

He offered encouragement to paper manufacturers plagued by

How to Improve Report Writing

TIME AND AGAIN during the coating conferences, the importance of effective report writing was stressed by various speakers. Walter Holland, mill manager, Oxford Paper Co., Rumford, Me., in his banquet address, strongly recommended the use of basic English, saying that many times John Jones, management, can't fathom what Will Jones, scientist, is trying to get across.

He urged that report writing be understandable, clear and salable, remarking that management has been accused of talking to themselves, but so do the scientists.

Russell Savage, Mead Corp., Chillicothe, Ohio, one of the panelists at another session, repeatedly emphasized report writing. He told his audience that not one man in ten can write a good report. He advised that reports should be short and called report writing a forgotten phase of business.

William Kirkpatrick, Allied Paper Mills, Kalamazoo, Mich., joined in the drive for effective report writing and expressed the belief that the stereotyped form of report was better, in which the subject, object and conclusion were clearly stated.

30% more paper from the same machine...

Tonnage up 30% . . . speed increased from 500 to 650 feet per minute on high grade papers . . . equivalent of a 40-hour work week stretched into the production of 52 hours — all at no increase in space, no sacrifice of sheet quality!

That's the performance record of a mill that called in Puseyjones when more production was desired. A machine was modernized with a new Suction Press for the wet end and additional Dryers to permit higher speeds. Result — almost a third more production without increasing machine length or adding to building space. And quality remains just as high.

Puseyjones engineers will be glad to work with you in solving your modernization problems for better qualities, higher speeds, bigger profits. Write us today.

THE SIGN OF SUPERIOR QUALITY

THE PUSEY AND JONES CORPORATION
Established 1848. Builders of Paper-Making Machinery
Fabricators and Welders of all classes of Steel and Alloy Products
Wilmington 99, Delaware, U.S.A.

printers' complaints of "lousy paper" and said "paper is actually better than we ever had it."

He told his audience that unless they know the specific conditions on a particular press, they can't know whether the paper is to blame. Often paper "picks" because there is something wrong in the pressroom. *See exclusive story elsewhere in this issue on Time, Inc.'s laboratory.*

Some Q's and A's

Frankness characterized the discussion period which followed. Here are some of the more interesting questions asked of the "high powered" panel:

Q. What do you do to predict press performance of coated papers at S. D. Warren?

A. We actually print the paper and get a pretty good idea of press performance itself. For instance we will print as many as a thousand sheets of offset from one run.

Q. Can you measure mechanical deviation on the press?

A. Mr. Thoma replied that Time, Inc. has such an instrument which it developed and on which it will supply information to any legitimate inquiry.

Q. Does fundamental research belong in research?

A. A poll was taken. The panel replied in the negative. They said fundamental research belongs in colleges and universities.

New Coating Solution May Be Hot Item

A new resin coating solution, still in the research stage with commercial machine trials now being made, may soon offer many plus values to coating manufacturers and converters if preliminary laboratory tests are right.

This coating, according to Fred Speyer, research division, Pierce & Stevens, Inc., is characterized by exceptional gloss, clarity, scratch and mar resistance, flexibility, block resistance and adhesion to almost all types of papers and printing inks. Mr. Speyer believes that these properties, coupled with highly favorable economic advantages could conceivably put the gloss coating of both coated and uncoated papers on a level with 100% plastic strata.

PULP & PAPER saw some of this coating applied over a highly glossy coated wrapper and in comparison the latter appears dull. Pierce & Stevens are experimenting with new resin solution systems, tailormade for low cost, high gloss coating of paper and board stock, consistent with acetate film laminations.

HIGH POWERED PANEL DISCUSSED RESEARCH AND DEVELOPMENT

Left to right are RUSSELL SAVAGE, Mead Corp., Chillicothe, FREDERICK H. FROST, S. D. Warren Co., GILBERT DICKERMAN, Consolidated Water Power and Paper Co., Wisconsin Rapids, Wis., WILLIAM KIRKPATRICK, Allied Paper Mills, Kalamazoo, Mich., GERALD HAYWOOD, West Va. Pulp & Paper Co., Luke, Md., PAUL THOMA, Time, Inc., Springdale, and HARRIS O. WARE, Hercules Powder Co., chairman.

Q. What connection has research with sales research?

A. First step is to find out through market research. Thousands of dollars should be spent on market research before a dime is spent on research.

Q. What percentage of sales dollar should be spent on research in the paper industry?

A. ½ to 1% of net sales is a fair figure. It depends on how good a selling job you have done on management. The belief was expressed that the tremendous growth of the chemical industry is due to the fact that they spend about 5% of net sales on research.

Q. What function should independent laboratory consultants and colleges have?

A. There is a need for both. Mills can't take people off a job for every project. For instance, the outside laboratories could provide more information about chemical reaction in the magnetic field.

Q. Do you believe that technical service departments operate best when part of research, sales or independently?

A. They can operate any way. Important thing is they work closely with the mill technical and sales technical departments.

Q. How long should a new product be manufactured or guided by research department?

A. The technical department often controls the product until proven economically.

Q. What single improvement in paper would be most useful?

A. Uniformity.

Q. What is a smaller mill to do? Research for them costs about as much as for a large mill.

A. Consultants can serve the small mill.

Q. How do you select a new product or research project?

A. S. D. Warren has a screening committee composed of three men from manufacturing, three from research and three from sales. They have authority to accept or reject. Result—70-80% success today against 30% previously.

PULP & PAPER Interviews

PULP & PAPER interviewed several mill managers, technicians and supervisory as well as equipment and suppliers representatives. Here are some of their observations:

Many were impressed at the unusually large attendance at all the meetings—in spite of tempting golf and fishing weather.

A coated paper mill manager said, "This is the best meeting I have ever attended for being able to find a wide variety of coating people to talk with about my problems."

PULP & PAPER Story Endorsed by Coaters

PULP & PAPER's recent article carrying the forecast by Glen Sutton, superintendent, North Side mills, Sutherland Paper Co., Kalamazoo, Mich., that within five years 75% of all folding boxes made in America would be coated, evoked considerable discussion at the Coating Conference. Consensus was that Mr. Sutton was right.

The plant manager of a board and carton mill told PULP & PAPER that at the end of World War II there was hardly any coated folding boxes and that contrasted with today's production there was a tremendous increase. He also went on to say that two major problems to lick were the bending of the heavier weight boxes and the problem of rub.

New Facts on Japanese-Alaska Moves

United States Forest Service, replying to inquiries by PULP & PAPER, said that the Alaska Lumber & Pulp Co., a Japanese company, which has submitted an application for a major auction sale of national timber for 50 years in the Sitka area, will be required in due course of time to reveal its American or other financial backers. No applicant to bid for Alaska timber will be approved unless the Forest Service is reasonably satisfied of its financial support.

The U.S. Forest Service stated it had no indication as to when it would receive adequate information or commitments from this company to proceed with preparation of the sale. It is expected that field examinations and drafting of a sample contract will take most of this year and that the Sitka unit would not be advertised before late 1954 or 1955.

The Japanese plan to use an existing sawmill at Wrangell, Alaska, PULP & PAPER editor learned in Alaska, but this is only for a five year period. The Japanese long-term interest in Alaska is strictly for the so-called Sitka pulp-timber unit of five billion board feet.

Repercussions on Japanese-Canadian Treaty

In the May 1954 issue of PULP & PAPER, a report that Canadian ratification of a trade pact with Japan would give preference to Canadian woodpulp brought a number of inquiries and comments from U.S. government officials to this magazine.

The Canadian offices of PULP & PAPER explain that Canada would have no trading advantage over the U.S., as under our modern trade agreements advantages are reciprocal and shared.

The main purpose of the Canadian-Japanese treaty was aimed at giving Japan a better chance to sell in Canada, since the balance has been all in favor of Canada in the past at a ratio of about 8-to-1. The Canadian agreement, while giving preference to Canadian woodpulp, will in effect accord U.S. woodpulp no unfavorable treatment.

J-M Building New Plant

A new plant for manufacture of synthetic silicates from diatomite, the fossilized remains of tiny marine plants called diatoms, will be completed in two years by Johns-Manville Corp., Lompoc, Calif.

Second Alaska Mill

Alaska's second pulp mill now appears a certainty. In Juneau on June 9, Pacific Northern Timber Co. was the successful and only bidder on 3,000,000,000 bd. ft. of timber in the Wrangell region of Southeastern Alaska. The Forest Service advertisement required that the successful bidder proceed with plans under a definite time schedule, which will eventually see an 80-ton per day pulp mill realized, as well as a lumber facility in the same location.

The Alaska Pulp Co., the Japanese interests, was not represented in the bidding. Lately they have been working towards the purchase of the Columbia Lumber Co. sawmill facilities at Sitka. Such a mill under Japanese ownership would no doubt be the forerunner of a pulp mill in the future, contingent upon a successful bid for a block of national forest timber.

B-C Official at Opening of Swedish Mill

Air commodore T. C. Miller, deputy managing director of Black-Clawson International Ltd., accompanied by Mrs. Miller, represented Black-Clawson interests at the formal opening of the new Fiskeby Fabriks Aktiebolag of Norrkoping, Sweden on May 14.

Scott Paper Co. Okays Two More Everett Machines

The board of directors of Scott Paper Co., meeting for the second time in their history on the Pacific Coast, led by Pres. T. B. McCabe, voted approval May 26 of adding Paper Machines No. 3 and 4 at the Soundview Division in Everett, Wash.

It had been reported several months ago in PULP & PAPER that No. 3 and 4 were already on the drawing board.

No. 1 started up on tissue last December and No. 2 will roll this summer.

All four machines trim 195 inches and are reputed to be highest speed machines yet built. Beloit Iron Works builds the machines according to Scott design. All four machines will be parallel. Pulp is slushed to machines from bleached sulfite mill being expanded to 720 tons a day, which will be 50% on ammonia base and 50% orthodox calcium base—four digesters on each.

New Mill Plans In Saskatchewan

Representatives of Anglo-Canadian Pulp & Paper Mills, Quebec, and officials of the Saskatchewan government discussed development of timber in the Candle Lake area of that province with a view ultimately to build a $30,000,000 pulp mill.

A New Central Lab Serves 3 Mills

VISITORS ARE INVITED to the ultra-modern and well equipped central Research and Technical Control Division in Dayton, O. (Aetna Div.), for the three Howard Paper Mills.
TOP—Conference in new lab (around table, from left): MARGARET STEELE, Secy.; L. M. TYLER, Chief Chemist; F. L. KIMMEL, Manager of Aetna Div. Mill; KEN P. GEOHEGAN, Director of Dept. of Research and Tech. Control; K. M. GRASSE, Research Chemist; and E. W. PETRICH, Chem. Eng. Asst. Tech. Director C. E. BRANDON was not present.
BELOW—Glimpse of one laboratory showing varied equipment. JAMES GIBSON is taking sample from Noble & Wood lab beater.

PAPER MILLS *Everywhere* have proved the NORTHWEST CRAWLER IDEA!

Canada
Abitibi Pulp & Paper Co.

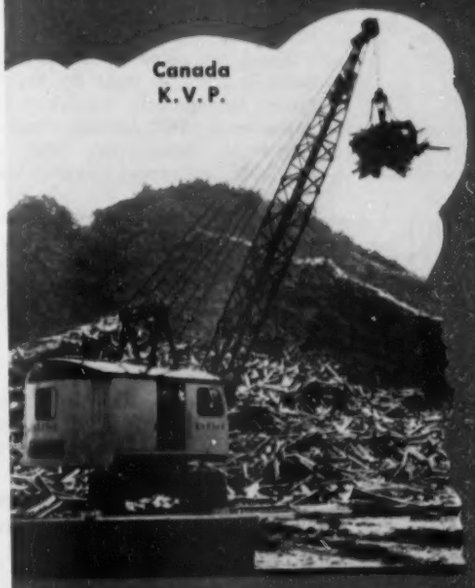
● All over the United States, paper mills both large and small, have found that they can materially speed up and cut the cost of pulp handling with Northwest Crawler Cranes.

On this page are pictured just a few of the mills, many of them well known, in various parts of the country, now using Northwest crawler equipment. Many of these mills have added additional Northwests to their fleets after trying out the crawler idea in place of track type machines. Remember, a Northwest goes anywhere and handles any type of material. It makes possible the better utilization of storage areas. It works from the side or end of a car without an extra length of track and it will serve in any location around the mill.

Mobility and mechanical advantages mean lower costs and faster operation. If you are using track type equipment it will pay you to find out what a Northwest crawler can do for you. Ask for more details.

NORTHWEST ENGINEERING CO.
1516 Field Building
135 South La Salle Street, Chicago 3, Illinois

Georgia
National Container Corp.



Canada
K.V.P.

Texas
Champion Paper Co.

Wisconsin
Hoberg Paper Co.

Florida
St. Regis Paper Co.

NORTHWEST

The Crane That Goes Anywhere

10 to 50 TONS

Survey Shows Increase In Forestry Work

AMERICAN PULP COMPANIES increased by 347% their expenditures for forest management work in the seven years from 1945 to 1952. They increased their timber acreage by 43%. And yet they produced in their own forests only 19% of the pulpwood they use.

These are some of the revealing facts brought to light by the first forest management inventory, undertaken in 1952 by the American Pulpwood Association, and now available in a report recently issued by the association.

W. S. Bromley, executive secretary of the association, said the survey was made of the 171 pulp and paper companies in the U.S., which operate 252 mills consuming pulpwood in this country.

Over $14,000,000 a Year

Pulp and paper companies paid out $14,400,000 in 1952 for forest management and research work, and only $4,000,000 in 1945. "The primary cause of the striking increase is the rapid rise in company forestry programs in furnishing technical services to tree farmers and in improving company forests," Mr. Bromley explained.

25,800,000 Acres

In 1945 the industry owned 17,900,000 acres of timberland, according to the survey, but by 1952 this had increased to 25,800,000 acres.

Only 58%, or 15,000,000 acres, is rated as bearing merchantable stumpage. The balance is not producing pulpwood yet. On 34% of the company lands the forest is restocking itself; on 5% tree growth is not big enough to warrant management work yet; only 3% needs stocking or planting.

1,500 Foresters

Private industry now equals the government as an employer of graduate foresters. Over 1,500 were on the 1952 payrolls of the 171 companies in the pulpwood association's study. Of those engaged in forest management alone, the gain was from 263 to 868 during the seven year period 1945-52. The increase in non-technical personnel in forest work was from 2,000 to over 3,200.

This enlarged force of foresters and helpers is required, said Mr. Bromley, to help forest land yield increased amounts of pulpwood on small and medium-size woodlots and forests as well as on company lands.

Grow Only 19%

Pulp companies cut only 3 cords of pulpwood from their own lands out of every 26 cords they use, the survey disclosed. Of every 26 cords consumed by the pulp mills, 13½ are pine, 9 are other softwoods, and the balance is hardwoods.

In spite of the increase of company-owned timberland, pulp companies got only 19% of their pulpwood needs from their own land during the last three years. They depend heavily on pulpwood grown by other private landowners, getting 63% of their needs from this source. Government lands and imports each supply about 9% of total requirements.

30% Growth Increase

Foresters were asked to estimate the tree growth per acre on company lands during the next ten years. Estimates show that growth per acre will increase 30 to 40% by 1962, Mr. Bromley said.

The sharpest gains can be expected in the South, by 60%; and in the Lake States, by 40%, the foresters told the APA.

To Plant 116,000,000

First pulp and paper company planting of forest trees began in 1893, in the West, the survey found. The Northeast began in 1909; Appalachian area in 1902; South, 1920; and Lake States, 1926.

The 171 companies expect to plant more than 116,000,000 trees *every year* on company lands through 1962, the inventory found.

The West has the most ambitious program, scheduling annual plant-

APA FOREST MANAGEMENT INVENTORY, 1952

By Regions and Total United States. Estimates for regions derived from actual returns from questionnaire, plus certain marked items from others.

	Northeast	Appalachian	Lake States	South	West	Total U.S.
1. No. of wood pulp mills***	72	28	58	56	38	252
2. No. of companies consuming pulpwood***	58	17	52	43	28	171¶
OWNERSHIP AND CONDITION OF LAND						
3. Acres of land owned, 1945	7,140,118	107,833	1,152,140	6,036,113	3,505,083	17,941,287
Acres of land owned, 1952*	7,913,107	230,158	1,638,812	11,507,192	4,504,844	25,794,113
Acres of land owned and leased, 1952*	8,115,457	240,847	1,838,353	13,004,377	4,624,432	27,823,487
4. Condition of forest land, 1952: Acres						
a. Merchantable	4,456,410	160,687	593,900	7,508,749	2,373,086	15,092,832
b. Restocking but non-merchantable	2,846,907	65,543	958,217	2,801,404	2,015,387	8,687,458
c. Needs stocking or planting	107,651	3,717	---	541,580	107,585	760,533
d. Submarginal for management at present	502,139	211	86,695	655,459	8,786	1,253,290
e. Total ownership, 1952*	7,913,107	230,158	1,638,812	11,507,192	4,504,844	25,794,113
PULPWOOD CONSUMPTION & SOURCE						
5. Total consumed, 1952 cds**	4,046,997	1,673,458	2,924,633	13,319,670	4,511,352	26,476,110
a. Fire	194,650	353,000	595,060	12,209,197	100,400	13,452,307
b. Other softwood	3,000,700	392,895	1,406,522	---	4,410,952	9,211,069
c. Hardwoods**	851,647	927,563	923,051	1,110,473	---	3,812,734
6. Average annual cut from company lands past 3 yrs. in cords	833,295	44,863	110,000	1,927,224	703,126	3,618,508
7. Other forest products cut annually from company lands, in cords	238,380	2,063	41,960	1,536,990	956,711	2,776,104
8. Source of pulpwood last 3 years: #						
a. Company lands	24%	10%	8%	13%	46%	19%
b. Other private lands	45%	80%	29%	83%	37%	63%
c. Government lands	1%	5%	33%	4%	16%	9%
d. Imports (primarily Canada)	30%	5%	30%	-	1%	9%
	100%	100%	100%	100%	100%	100%
9. Estimated growth per acre on company lands, 1952, in cords	.22	.54	.26	.49	1.52	No average offered.
Expected, 1962	.30	.55	.36	.79	2.17	

* American Paper & Pulp Association
** Bureau of Census
*** Lockwood's and U.S.F.S., 1952
¶ Total includes companies operating in more than one region.
# From actual returns, except in Appalachian and Lake States, where estimates are offered.

APA FOREST MANAGEMENT INVENTORY, 1952

By Regions and Total United States. Estimates for regions derived from actual returns from questionnaire, plus certain marked items from others.

		Northeast	Appalachian	Lake States	South	West	Total U.S.
PLANTING & DISTRIBUTION OF TREES							
10.	Company land planted to date*	7,729 1/	5,290	35,526	336,753	58,111	443,409
	Company land seeded to date*	28	---	10,115	23,150	76,191	109,484
11.	Date of first planting	1909	1902	1926	1920	1893	1893
12.	Area to be planted annually during next 10 years, acres	79	248	5,030	137,217	30,550	173,124
13.	Number of trees to be planted annually next 10 years	79,000	492,502	4,935,000	40,603,990	70,500,000	116,610,492
14.	Trees distributed to others in 1952*	180,000	246,500	1,010,000	29,403,300	300,000	31,139,800
	Total distributed to date*	360,000	553,000	7,585,000	109,280,500	2,089,000	119,867,500
FOREST PROTECTION & MANAGEMENT							
15.	Cost of fire protection work*	$421,100	$9,500	$42,600	$1,943,170	$2,542,625	$4,958,995
16.	Cost of forest management work on						
	a. company lands, 1945	$205,507	$13,877	$163,850	$1,387,403	$1,152,405	$ 2,923,042
	b. company lands, 1952	536,908	88,589	423,000	6,198,732	2,907,796	10,155,025
	c. other lands, 1945	36,729	8,054	---	13,625	73,132	131,540
	d. other lands, 1952	67,337	42,126	---	232,916	430,861	773,240
	e. forestry assistance, other lands, 1952						
	-No. of small land owners assisted*	454	1,280	942	9,302	488	12,466
	-Acres*	127,000	45,900	329,420	2,245,403	44,040	2,791,763
	-No. of company foresters used*	6	17	7	194	14	238
17.	Company-owned forest tree nurseries, 1952						
	a. Number*	---	---	5	16	5	26
	b. Present annual production of seedlings*	---	---	11,500,000	37,000,000	12,250,000	60,750,000
	c. Planned expansion of production of seedlings*	---	---	6,100,000	22,000,000	---	28,100,000
18.	Cost of Research						
	a. Logging, 1945-47	$ 40,227	$ ---	$ 10,000	$288,540	$ 2,350	$ 341,117
	1950-52	299,079	---	650,000	312,585	12,220	1,273,884
	b. Forest Management, 1945-47	74,333	63,189	39,000	324,607	131,741	632,870
	1950-52	353,298	130,095	63,000	836,766	355,754	1,738,913
	c. Other forest studies, 1945-47	2,623	---	---	84,158	1,410	88,191
	1950-52	31,482	---	17,000	213,199	10,692	272,373
FORESTRY PERSONNEL OF PULP COMPANIES							
19.	Graduate foresters on forest management						
	a. In 1945	40	5	29	117	72	263
	b. In 1952	114	18	67	524	145	868
20.	Other non-technical personnel in forest management						
	a. In 1945	1,592	1	21	321	68	2,003
	b. In 1952	1,160	7	54	1,755	248	3,224
21.	Graduate foresters in other activities in 1952						
	a. Logging	35	--	18	3	78	134
	b. Timber procurement	19	6	21	197	13	256
	c. Research	16	--	14	8	16	54
	d. Other work	9	2	20	93	80	204
	e. Total, other than forest management	79	8	73	301	187	648
	f. Total in forest management	114	18	67	524	145	868
22.	Total graduate foresters employed in 1952	193	26	140	825	332	1,516

1/ Questionnaire figure greater than APPA.

These figures show that the Lake States area is the leading region in the number of trees planted annually, with plantings of 70,500,000 trees on 30,550 acres. The South listed 40,603,990 seedlings a year on 137,217 acres, and will also distribute about 30,000,000 trees to others for planting each year.

APA Midwest Meeting Features Demonstrations

FIELD DEMONSTRATIONS highlighted the Lake States Technical Committee meeting of American Pulpwood Association, held May 19 and 20 at Muskegon and Manistee, Mich. More than 75 industry representatives were on hand.

Robert Nivison, Improved Machinery, Inc., of Nashua, N.H., headed up the demonstration of Central Paper Co.'s two Impco debarkers in operation at this mill for nearly a year. All species of soft- and hardwoods, common to the Lake States Area, in conditions varying from dry seasoned to fresh cut, 50 and 100 in., were debarked.

Field demonstrations on the Stanley Keelean pulpwood operations near Strawberry Lake, Mich. featured Four Wheel Drive Co.'s Blue Ox equipped with both "A" frame and winch mounting for tree length skidding and Anderson hydraulic grapple for 8 ft. wood handling, Caterpillar Tractor Co.'s D-4 equipped with Anderson hydraulic sulky, hot logging with Keelean pulpwood drays and the Timber Tosser mounted on F. W. D. truck.

One of the highlights of the meeting was a group tour of American Box Board Co.'s new Filer City semi-chemical mill where a demonstration of unloading and tiering 8 ft. wood with an Industrial Brown hoist locomotive crane equipped with Spot-Master grapple control was given.

The two-day meeting came to a successful end with a field trip viewing experimental forest work featuring the Filer City hybrid aspen test plot, aspen management, pine pruning and thinning and aerial spray of herbicide for pine release.

SEEN AT LAKE STATES APA MEETING

DEMONSTRATION OF WOODYARD equipment at Central Paper Co., Muskegon, Mich. mill was a highlight of APA Lake States Technical Committee meeting. At top, left, P&H crane feeding pulpwood to Impco barker; right, close-up of one of two Impco barkers installed at Central one year ago.

AMONG THOSE PRESENT at APA meeting were (below, left to right) M. J. STANKIEWICZ and LUCIEN WHITTLE, of Brunswick Paper Co.; Brunswick, Ga.; JOHN FIELDS, Woodlands Dept., Central Paper Co.; HAROLD PALMQUIST, Woodlands Manager, Marathon Corp.

Youth Wins in Wisconsin

A two-year political battle in Wisconsin ended when the state conservation commission named 39-year-old John A. Beale as state chief forester and assistant state conservation director over C. L. Harrington, 63-year-old veteran.

PULPWOOD SECTION

SOMETHING NEW

CATERPILLAR D-4 has a COLLINS brush blade in front that clears a *path through wild land.* The LOWTHER tree planter towed behind is fitted with heavy screen that protects the operator. Standing, left, is HARRY A. LOWTHER; with W. E. McGRAW, of Caterpillar, at right.

New Equipment Shown to Forest Management in South

NEW MECHANICAL features for forest management were shown at Gulf States Section, Society of American Foresters, in Alexandria, La., May 6-7.

Interest of paper companies in aircraft used extensively down South for photography, fire patrol, and executive travel was recognized by Beech Aircraft Corp., which showed its new model E-35 series four-passenger, single engine Bonanza. Also there was the Beechcraft used by Crosby Chemicals Co. executives. Bell Aircraft demonstrated its helicopter.

Since the Southern pulp and paper industry today is based upon pine there has been a strong effort by forest managers to wrest lands from encroaching hardwoods in support of their desired species. This was reflected at Alexandria in equipment designed to strengthen foresters in conversion problems.

Interesting was a Caterpillar D-4 equipped with a Collins brush cutting blade and towing a Lowther seedling planter. The cutter clears a 9-ft. swath, affording an opportunity for the seedling to "start even" in competition for survival. This is for "wild land" grown to brush. The operator is protected by heavy screen. Harry Lowther of that company, and W. E. McGraw, of Caterpillar, were demonstrating. The planter features large packing wheels.

Extensive reforestation by Crosby Chemicals Co., at DeRidder, La., of long denuded longleaf pine lands with a new technique of direct seeding instead of seedling planting has been attracting attention with a planter devised by H. M. Rogers, company master mechanic, and drawn by John Deere M-1 "40" model crawler mounted tractors.

Seamon Motors, Inc., Milwaukee, presented a rotary tiller, demonstrated by Milton Reik, of Seamon, and Roy H. Guthridge, Lake Charles, La., dealer, excellent for making fire breaks.

High in interest was the "Little Beaver" tree girdler. This is a one-man pack-carried machine produced by Haynes Mfg. Co., Livingston, Texas. It has a 2-cycle Clinton air-cooled motor carried on the back of the operator with a cutter tool at the end of a drive cable. The operator walks around the tree, cutting as he moves. Timberland Saw Co., Marshall, Tex., is a direct dealer.

William Norton, Hoffco, Inc., Richmond, Ind., demonstrated another operator-packed cutting tool, in this case a 2 hp 2-cycle air-cooled motor operating a chain saw or cutting wheel, through a long tubular handle permitting erect posture.

Cont'd on p. 58

PULPWOOD EQUIPMENT IS DEMONSTRATED

J. N. BROWN demonstrates the new HAYNES Mfg. Co. tree girdler, performing the task at a walking gait. Two-cycle CLINTON air-cooled motor is carried on back of operator.

CROSBY CHEMICALS uses this equipment in experiments in direct longleaf pine seeding on barren lands. The JOHN DEERE M-1 ("40") model crawler draws planting hoppers devised at Crosby.

American 375 Crawler Cranes. These rugged, completely mobile crawler cranes work smoothly and economically under varying site conditions. Hour for hour, load for load, American cranes outwork, outproduce anything in their field *with less maintenance cost!*

American DiesELectric Locomotive Cranes. Unquestionably the leader in locomotive cranes. American's 25- to 80-ton locomotive cranes put diesel efficiency into your pulpwood handling operations. Operating records prove that an American DiesELectric Locomotive Crane *will write off its own cost in five years!*

American 750 Crawler Cranes. Engineered for extra capacity, these big capacity crawler cranes add production hours to your day. Again, this means *on schedule* production and lower costs for American owners.

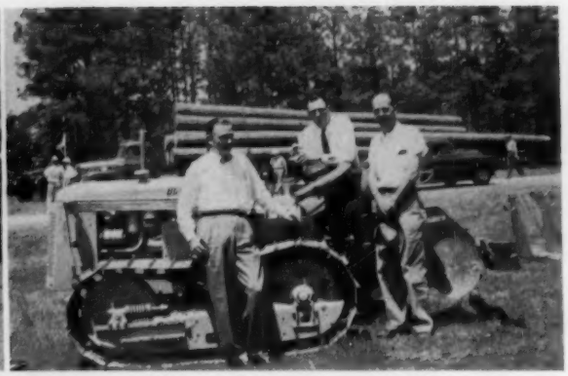
TRACKS or TREADS?

Either way, your best answer is AMERICAN!

Of course, your yard is different. Your loading, unloading and storage problems are unlike those of any other yard. So, you need a crane—whether locomotive or crawler—that is suited to your particular needs and will cut your costs to rock bottom. That's where American fits into your picture . . . for whatever your needs, there's an American built for you!

American Hoist

American Hoist & Derrick Company
St. Paul 1, Minnesota



FORESTRY EQUIPMENT DISPLAYED TO GULF STATES GROUP

KIRBY LUMBER Corp.'s operations office at Silsbee, Tex., supplied this truck equipped with RAY-LIND loader, one of 13 so equipped for Kirby. At left is FRANK R. GROTE, Kirby forester; at right, WM. H. CLOUD, the operator.

OLIVER CORP. demonstrated its small crawler tractor with fire plow. Left to right, SAM RIGGAN of Oliver-Memphis, Tenn.; ED KRUSE, Oliver-Chicago; JIM O. HARRIS, Southern Iron & Equipment Co., Atlanta, fire plow makers.

W. A. TAYLOR, president of Taylor Machine Works, Louisville, Miss., stands beside his pulpwood yardster, which was loaded high in forestry demonstration.

DISEMBARKING from the BELL helicopter are DAVID DONALDSON (left), Roy O. Martin Lbr. Co., Alexandria, La., and RUSS ANDREWS, International Paper Co., Mobile, Ala.

McCulloch's chain saw and fire pump were demonstrated. Hugo Babcock, Southern sales manager and others for Mall Tool were there; also Fred C. Hulston, Knoxville, Tenn., for Oregon Saw Chain.

For Homelite, there were George Banker, Alton Ellsey, Bill Bedford, and Jim Anderson. A new chain saw produced by Wright Power Saw & Tool Corp., Stratford, Conn., was demonstrated by W. H. Williams. Other saws were also on exhibit.

Good for Light Logging

From Silsbee, Tex., Frank R. Grote, forester, and Wm. H. Cloud, operator, brought a truck equipped with the Ray-Lind Mfg. Co. log loader. This was one of 13 Kirby Lumber Co. trucks so equipped. They are used for improvement thinning, salvage, and in scattered stands where volume does not warrant the heavy expense for logging. A new modern Kirby sawmill at Silsbee will supply chips to the new East Texas Pulp & Paper Co., 10 miles from it at Evadale.

Oliver Corp. was represented from Memphis by Sam Riggan and from the Chicago office by Ed Kruse. Exhibited with the Oliver tractor was a fire-line plow from Southern Iron & Equipment Co., Atlanta, Ga.

Carl E. Mittell, John M. Evans, and Melvin C. Spencer were on hand to demonstrate the new Evans-Busch pulpwood trailer, redesigned to reduce its weight without sacrificing loading capacity. This trailer can be parked without its wheels for accumulation of pulpwood.

W. A. Taylor, president of Taylor Machine Works, exhibited his company's pulpwood yardster. Hyster's loader was demonstrated by Robert W. Hill, who came from Peoria, Ill.

Using the Collins brush blade, Caterpillar D-4 and operator protected Lowther planter in stunted and infected aspen stand on lands of the William Bonifas Lbr. Co., Iron Mountain, Mich., spruce seedlings were set out at an average rate of 5,000 per day, with as high as 7,000 per day recorded.

Other exhibits included Clark Equipment Ross carriers, Allis-Chalmers tractors and other machinery, International tractors, Motorola, Shield-Bantam cranes, and others.

James Bryan, of Dantzler Lbr. Co., Perkinston, Miss., was elected chairman.

Charles A. Connaughton, Regional U. S. Forester, served as moderator over a most interesting technical program. This included talks on advanced weather forecasting as advantageously applied in forest management by Clyde M. Bell, of Western Union; on aerial photography as a tool in forest management, by T. E. Bercaw, Gaylord Container; economics of mechanization, by Tom N. Busch, International Paper, and maintenance of equipment, by H. H. Jefferson, American Pulpwood Assn.

Registration hit a high mark with 340 professional foresters and 91 others.

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It's packed with photos of mill operations...flow charts...44 pages full of practical ideas to help you reduce costs, speed operations.

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	Net Sales (000)	Income Bef. Taxes $ (000)	% of Sales	Net Income (000)	Net Per Share
Puget Sound Pulp & Timber Co.	$ 5,282	1,604	30.4	$,770	$ 0.99
Rayonier Incorporated	19,748	5,500	27.9	2,815	1.26
MacMillan & Bloedel Co., Ltd. (fiscal yr. ends 9/30)-(2nd Qu.)	32,412	4,539	14.0	2,317	0.44
Diamond Match Co.	24,480	1,855	7.6	1,025	0.75
Eastern Corp.	5,487	444	8.1	214	0.57
Glatfelter (P.H.) Co.	4,281	839	19.6	361	1.59
Great Northern Paper Co.	11,315	2,189	19.3	1,147	1.15
Hammermill Paper Co.	7,255	760	10.5	382	0.45
Kalamazoo Vegetable Parchment Co. (fiscal yr. ends 9/30)-(2nd. Qu.)	11,164	n.a.	-	520	0.63
Oxford Paper Co.	13,944	1,641	11.8	807	0.89
International Paper Co.	165,498	33,411	20.2	15,361	1.55
Mead Corp.	25,261	2,445	9.7	1,185	0.96
Riegel Paper Co.	11,193	956	8.5	448	0.86
Scott Paper Co.	44,393	7,639	17.2	3,579	1.06
St. Regis Paper Co.	50,095	n.a.	-	3,950	0.70
West Virginia Pulp & Paper Co. (fiscal yr. ends 10/31)-(2nd Qu.)	41,719	7,300	17.5	3,700	0.73
Gaylord Container Corp.	21,343	3,933	18.4	1,866	0.69
Union Bag & Paper Co.	25,985	6,210	23.9	2,910	1.64
Container Corp. of America	43,685	8,865	20.3	4,255	2.10
Gair (Robert) Co., Inc.	28,454	3,328	11.7	1,361	0.60
National Container Corp.	17,448	1,503	8.6	698	0.19
Sutherland Paper Co.	13,439	2,205	16.4	1,058	1.15

Sales and Earnings—First Quarter of 1954—For Representative Companies

SALES AND EARNINGS for 22 representative companies in pulp and paper and paperboard were especially compiled in this table for PULP & PAPER by Cyrus J. Lawrence & Sons, members New York Stock Exchange, from statistical services and published reports.

While figures are believed to be correct, no guarantee is given as to their accuracy.

The grouping of companies was by PULP & PAPER to indicate companies with similar products and scope of operations. This is done only in a very general way, however. First are three market pulp companies which also are in other forest industry markets with sawlogs, etc. Next comes a group of Northern integrated operations. Next are companies with farflung operations in both North and South, and in some cases, in Canada. All are integrated, and the first five sell pulp, too.

Finally are two groups of integrated paperboard producers. The first two are leaders in the South. The last group are in both North and South, except Sutherland, a Northern producer.

South Sees Upward Swing in Newsprint Production

At this mid-year, newsprint production, a subject of interesting discussion, began an upward trend in the southern region with two new mills starting and additional facilities planned.

Major contribution to enlarged supplies comes from Bowaters Southern Paper Corp., at Calhoun, Tenn., 42 miles from Chattanooga. Here a $55,000,000 mill project with many new features will produce an estimated 125,000 tons annually of newsprint for around 100 publishers under long-term contracts. Also to be produced, 50,000 tons of pulp.

Increased facilities to add between 20,000 and 25,000 tons annually are completing the drawing board stage for Coosa River Newsprint Co., at Coosa Pines, Ala. Coosa was the South's second pine newsprint mill.

At Southland Paper Mills, Lufkin, Texas, the first mill to make newsprint from southern pine, a third machine projected would add substantially to total volume.

Peer into Future

Company-owned airplanes were parked wing to wing on Fox River Valley airports May 20-21 as more than 300 top management men of America's pulp and paper mills gathered in Appleton, Wis., by invitation at The Institute of Paper Chemistry to peer into their own future with top research scientists.

Sober-sided industry chemists and biologists who usually talk only about demonstrable facts prepared to crawl out on a limb to guess what will happen in paper manufacturing by 1979.

Business is Good

Business conditions in the industry are generally good, President Robert M. Fowler, president of the Canadian Pulp and Paper Association, told the annual meeting of Canadian Life Insurance Officers Association in Toronto.

"While overseas markets are coming back slowly, there are many competent pulp and paper producers in other countries who will be fighting for those markets," he said.

Plans Progress for Sulfate Pulp Mill in Alberta

Plans for a $30 million sulfate pulp mill at Edson, Alberta, 130 miles west of Edmonton, are reported to be advancing rapidly following conferences between Frank E. Ruben of Montreal and representatives of a United States paper company.

Mr. Ruben is president of North Canadian Oil Co., which controls the recently organized North Western Pulp & Power Co., and has done much preliminary negotiating with the Alberta government and acquired cutting rights over more than 4,000 sq. mi. of lodgepole pine, spruce and poplar forest.

It is understood that when construction begins the enterprise becomes a joint venture representing the United States company, so far not named, and the Montreal group.

Building of a pulp or paper mill in Alberta has been the subject of much discussion during the past few years. R. O. Sweezey of Montreal is the promoter of one mill project which apparently is indefinitely in abeyance. The Clough interests of Red Deer were also interested in building a mill, and Herman Simpson of Seattle has been associated with this enterprise.

Johaneson Honored

Nils R. Johaneson, president and chairman of Cellulose Sales Co., Inc. was honored recently by award of the rare Gold Medal of the General Export Association of Sweden for outstanding services to Swedish exports, according to the American *Swedish Monthly*.

Mr. Johaneson is also chairman of American Defibrator Co. and past president of the Association of American Woodpulp Importers.

A-C Man In News

How to build a contemporary-style home in a year in one's spare time is the subject of an excellent article in the June issue of *Living* magazine. It tells how Don Altman, Allis Chalmers engineer in Seattle and known to pulp and paper men, and his wife, Charlotte, designed, built and decorated their home in Bellevue, overlooking Lake Washington.

John Robinson Cited

R. B. Heppenstall, president of Heppenstall Co., made an award in Pittsburgh for outstanding work to John D. Robinson Co., Savannah, for the sale of industrial knives.

NEWEST SOURCE OF AMMONIA on the Pacific Coast is 235-ton per day ammonia plant at Brea, Calif., operated by Brea Chemicals, Inc., subsidiary of Union Oil Co.

New Firm to Market "Aqua Ammonia"

The new $13,000,000 plant of Brea Chemicals, Inc., at Brea, Calif., started-up in April and expected to be operating at full capacity during June, producing 235 tons of ammonia a day. The Brea firm, a wholly owned but independently operated subsidiary of Union Oil Co. of Calif., is marketing its ammonia in liquid "aqua" form.

The "aqua ammonia" employs specially treated water as a carrier, making it a stable liquid that can easily be stored and handled in any tanks or equipment that will hold water. Sulfite pulp producers now using ammonia as a base report that it has demonstrated a number of advantages over other bases formerly used, and Brea Chemicals believes the "aqua" form of ammonia will offer added advantages in ease of storing and handling.

The Brea ammonia plant is the first major manufacturing operation of the new Union Oil subsidiary. Already under construction, adjacent to the plant, is a carbon dioxide unit, and a nitric acid and ammonium nitrate plant is also to be built.

Brea will maintain storage and distribution stations for its aqua ammonia at 12 key points in Washington, Oregon, California and Hawaii.

HERE'S WHY

the Most Experienced Pulp and Paper Companies Prefer Blaw-Knox Grapples

Outstanding performance and dependability resulting from many years of Blaw-Knox design experience are only two of the many reasons why the leading Pulp and Paper Companies continue to place repeat orders for Blaw-Knox Pulpwood Grapples.

Blaw-Knox Company is the foremost expert in designing Grapples for the economical handling of symmetrically stacked pulpwood.

Experienced Blaw-Knox engineers will gladly discuss your pulpwood handling problems and recommend the correct size Grapple for your needs without obligation.

Ask for Bulletin 2397.

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SERVICE AWARDS MADE TO CROWN Z CAMAS EMPLOYES

VICE PRES. A. B. LAYTON, in charge of Crown Z Research and Development (left), presents 20-year award to G. H. GALLAWAY, Res. Mgr.; H. E. BURDON, Office Mgr., in background. Other recipients of service awards include (l to r) E. P. BARTHELEMY, Paper Machine Foreman, 40 year; O. T. (Terry) DEFIEUX, Coordinator, Mechanics' Plan, CZ Corp., 35 year; G. W. CHARTERS, Asst. Res. Mgr. at Camas and master of ceremonies for the evening, 25 year; CECIL KNAPP, No. 2 Finishing Room Supervisor, 40 year.

Mr. Layton announced to the 209 recipients of awards, denoting service ranging from 5 to 45 years, construction of new central research laboratory at Camas.

Crown Z to Build Central Research Lab

Crown Zellerbach Corp. has announced plans for immediate construction of a new three-story central research laboratory at Camas, Wash. A. B. Layton, vice president in charge of research and development, revealed the plans at a Camas service pin dinner in May. He indicated that construction would start soon on the building, which will be ready for occupancy next April.

This structure of approximately 24,000 sq. ft. usable floor space will be located near CZ's modern development laboratory built at Camas two years ago, which incorporated complete experimental manufacturing facilities making it "the country's most complete industrial laboratory of the industry." (See p. 38 June 1952 issue of PULP & PAPER)

Construction of this extensive addition points up the emphasis Crown Z places on research. The central research lab will serve the organization's mills, logging divisions, sales divisions and converting plants. The structure is to accommodate approximately twice the present operating staff, the administrative staffs, and will provide ample laboratory facilities for pulp and paper research functions and by-products research.

CZ's collection of scientific books and literature, considered one of the finest of the industry, will be located in a special library section on the third floor. An auditorium of 150 seating capacity is to be included for group functions.

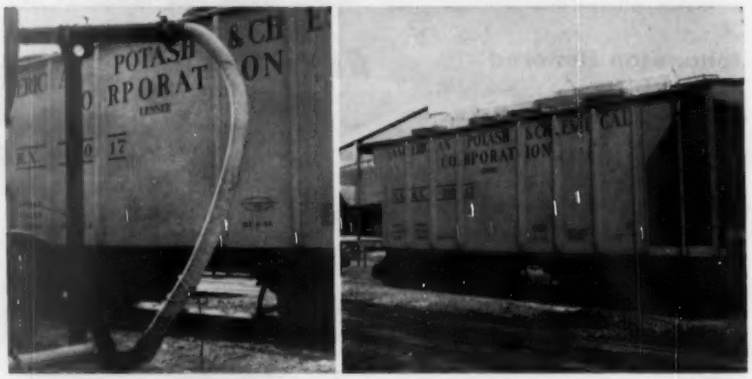
Mr. Layton, indicating the significance of the corporation's program, stated, "Through research we have the potential of developing an entire new industry of equal size and importance as our present business without using one more pound of wood, by developing processes and products from our wastes—the noncellulose portions of the tree.

"Many economists," he continued, "predict that once the temporary readjustment period of the next year or so is behind us, our country is destined to experience the biggest era of prosperity in its history, and the three prime reasons for this prediction are increased family formations, better management controls and techniques, and advanced technology through research."

Of the new research laboratory, Dr. W. W. Moyer, director of research, said "The new building complements the development laboratory and provides the central research department with up-to-date facilities for attacking at all levels the important problems of the corporation. Many ideas are developed at the laboratory bench before they advance to pilot-scale development. On the other hand, some projects that begin at the development level must be referred back to the research laboratory for more fundamental information. The new laboratory will give us complete flexibility in offering effective research services."

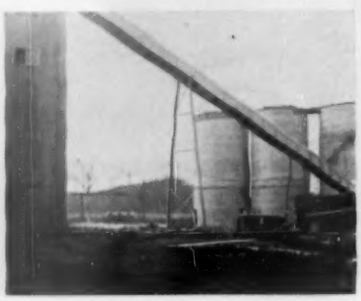
The existing research laboratory, built in 1938, is devoted to Camas mill uses.

How It Is Done At Big Longview Mill



CUTS COST OF UNLOADING

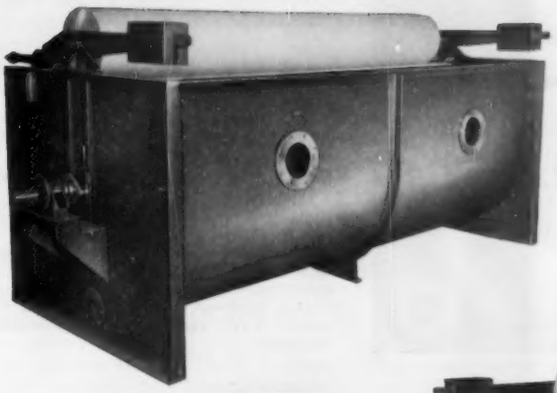
THIS AMERICAN POTASH & CHEMICAL CORP. car unloads salt cake at Weyerhaeuser Timber Co.'s Longview, Wash., kraft mill by Fuller Airveyor, without manpower. Pullman Standard Mfg. of Butler, Pa., made car with two tapered hoppers and unloaded pneumatically from bottom. Hose used with meter at top of T is also shown in view at left. No man is needed in car to drag a hose around or clean it out.



STEEPEST CHIP BELT?

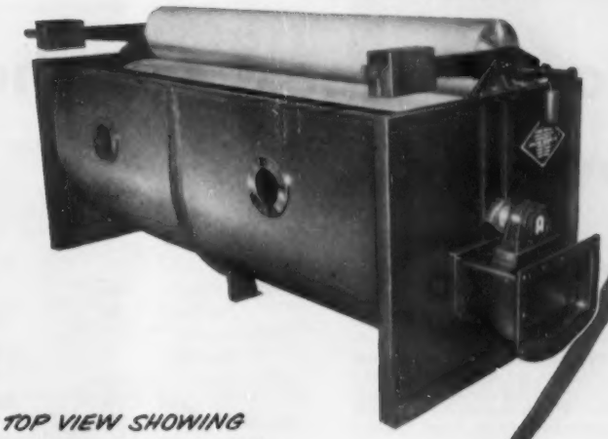
ONE OF STEEPEST chip conveyors in industry —at Weyerhaeuser Timber Co.'s semi-chemical pulp mill now under construction at Longview, Wash. The chip are carried 270 ft. at an angle of 19°–30'. Electric Steel Foundry chairs and chain and Link-Belt conveyor are used. Chips wil be used making 200 tons a day of neutral sulfite pulp and 9 pt. board, the latter on a new Beloit 165 in. Fourdrinier machine, due to go in operation about May 1955.

ANY WAY YOU LOOK AT IT...



VIEW OF END AND INTAKE SIDE OF COWAN DECKER

VIEW OF EFFLUENT DISCHARGE END FROM INTAKE SIDE



TOP VIEW SHOWING RUBBER-COVERED COUCH ROLL AND 48" DIA.– 131" CYLINDER MOULD

...the Cowan Decker shows its superiority!

COWAN DECKER PRODUCTION FIGURES:

35 tons/day — Groundwood
85 tons/day — Sulphite
100 tons/day — Kraft

APPLETON MACHINE COMPANY
APPLETON WISCONSIN

Exclusive U.S. licensee for Cowan Deckers

CHAIRMANNED GROUP SESSIONS

THESE MEN headed three-ring show at Gearhart, Ore., where mill problems got working over. L to r: THOMAS H. GRANT, Publishers' Paper Co., Acid Pulping Chairman; L. D. McGLOTHLIN, Crown Z Corp., Camas, Kraft Pulping Chairman, and CECIL TAYLOR, Columbia River Paper Mills, Papermaking Chairman.

Second Biggest Gearhart Meeting Drew 426

THE 1948 GEARHART, ORE., meeting still stands today as the biggest regional meeting ever held in Pacific Coast history. The 1954 meeting at the same seaside resort, with a registered attendance of 426, fell just 34 short of that all-time record.

Here was the final score for 1954 and 1953 at the late May Joint Meetings sponsored by Pacific Coast Superintendents and Tappi groups:

	1954	*1953*
Total attendance	426	409
Mill men	98	108
Salesmen—other men	168	148
Women	160	153

Here's the attendance for all five meetings held so far at Gearhart on the Pacific Ocean:

1946	350
1947	315
1948	460
1953	409
1954	426

(No Gearhart Meetings 1949-52)

So this year's meeting was almost as big as the second biggest regional meeting on the Pacific Coast, the one in Seattle in 1950, when the Canadian Technical Section was a third sponsor. Joint meetings and national meetings for the years 1949-1952 and their attendance records:

1949—Supts.—Can.,* Victoria, B. C.	320
1949—Tappi National, Portland, Ore.	725
1950—Supts., Tappi, Can.,* Seattle	430
1951—Supts., National, Portland, Ore.	888
1952—Supts., Tappi, Can.,* Victoria	425

*Canadian Technical Section's Western Branch also participated.

To Victoria Again in '55

Next year the Spring Joint meeting will be held in the Empress Hotel, Victoria, B. C., (on May 19 to 21 probably). It will be the third meeting for the Americans in the colorful island town which is "like a bit of old England." The last Victoria meeting in 1952 drew 425.

The biggest meeting ever held by this industry in North America, incidentally, outside of New York or Montreal (of course), was that big Superintendents' national in Portland in 1951. Actually over 1,000 were there the final night, though only 888 were registered.

Reasons for Victoria Choice

Two good reasons why the American groups decided to go to Victoria next year:

TALK AT GENERAL SESSION

GUS OSTENSON (left) Paper Production Mgr., Crown Z, Camas, who presented a paper on effective use of manpower in which REG HAIGHT of Camas assisted in preparation. CLARK C. HERITAGE (right), Development Research Director of Weyerhaeuser Timber Co., said semi-chemical pulping and modern close wood utilization was economical over 20 years ago.

Canadian Max Bailey, superintendent of Westminster Paper Co., in Westminster, B.C., is slated to succeed to the chairmanship of the Coast Sperintendents next Dec. 4 and so will be their leader in his own country at the Victoria meeting.

Canadian-born Edward H. Nunn, assistant resident manager of the Crown Z mill at West Linn, Ore., is new chairman of Coast Tappi and so will lead that group to Victoria.

New Era Is Foreseen for Log Barking

—AND HERITAGE FORECASTS ROLE OF SAWMILLS

THIS INDUSTRY is at the threshold of a new era of improved mechanical dry barking—

This is a viewpoint expounded in technical sessions of the Pacific Coast Supts.-Tappi meeting in Gearhart, Ore., in May and confirmed in interviews by PULP & PAPER with leading engineers and operators in the Coast industry.

That the Coast industry anticipates this dry barking era is all the more interesting because it was on the West Coast that hydraulic log barking began 12 years ago.

A comparison of log barkers was presented at Gearhart by William Beeman, Crown Z log buyer and graduate forester, and the hopes he expressed for new mechanical barking techniques were confirmed in later interviews with Coast leaders.

He recalled the first hydraulic barkers, made possible by development of extremely high pressure pumps, in 1942—Weyerhaeuser's chain turning barker at Everett and Crown Z's lathe type at Port Townsend. Puget Pulp's cradle type machine, built by Sumner, he called one of the most popular, with 22 on order or installed, and now used with double jets or sweeping type nozzles. A new McDonald plastic ring, he said, has improved the Hansel ring type hydraulic barker based on invention of Frank Swift of Crown Z, of which 20 are in use. Also he cited Western Barkers (Simon) rotary head ring type barker, with seven in use.

"But mechanical barking is becoming increasingly important to pulp and paper mills," he said, "and to sawmills with limited water supply."

He mentioned the Nicholson Rotobarker made in Seattle (10 or more in use); the Soderhamn Swedish chain barker, the Prentice cutterhead barker and one of the newest—the Burnt River Lumber Co. (Ore.) barker with toothed revolving side heads, carrying logs through on trunnion rolls, and reputed to have capacity of 150,000 bd. ft. per 8 hrs. Sumner Iron Works is now making these, one going in Scott Paper Co.'s Anacortes, Wash., mill.

Ed Erickson, Longview Fibre wood procurement engineer, told how sawmill chips are being more compactly loaded in trailers—Justina Bros. Lumber Co. in Eugene, Ore., getting 50% more in a trailer by using a Conveyair system for the 173-mi. haul to Longview, Wash. Pneumatic screw feeders are used and also a company-developed flow-deflector and reciprocating car motion method, to spread chips widely and achieve lamination and interlocking of chips.

Thomas R. Miles, a Portland, Ore. consultant on new wood use plants, told of greatly increased interest of sawmills in making chips and their need for quality standards for sulfite and sulfate. He mentioned using television cameras for control of chip loading. He said chips can be blown 1,700 ft. now—eventually may be blown 4,000 ft. He said chips are worth 1 cent a pound in a silo, 5 cents as pulp, but price differentials for sawmill chips are "wild and wooly."

Sawmills Offer Cheap Chips

The West's interest in wood waste was emphasized when Clark C.

NEW LEADER—TWICE HONORED

EDWARD H. NUNN, just three weeks after he was promoted to Asst. Res. Mgr. of Crown Z Mill at West Linn, Ore., was elected new Chairman of Coast Tappi section. MRS. NUNN, on Gearhart Hotel porch, has right to look up proudly. Mr. Nunn was born in Ferni, B. C., graduated from U. of B.C., and came to U.S.A. in 1930, joining Crown Z.

ALLOY 20 FOR SULFURIC ACIDS

CARPENTER STEEL CO., Union, N. J., presented new information on alloys at Gearhart. L. to r: JACK WILCOX, Process Equipment Div. Mgr. Electric Steel Foundry, whose responsibilities are now extended over Stainless Cast Specialties Div.; F. A. GUBA, Carpenter's Mgr. of Research, who made the talk; H. A. HAUSER, Carpenter's Northwest Mgr. whose office in Seattle is at Esco offices there; R. P. WEYER, Carpenter Western Regional Mgr., San Francisco. Esco and Carpenter work together closely. One relatively new alloy gaining wide acceptance in mills for sulfuric acid is Carpenter Alloy 20.

HONORS TO LADIES

AT HEAD TABLES for Ladies Luncheon at Coast meeting—one of most impressive events of kind in Gearhart, Ore., are (l to r): MRS. BOB THIEME (Scott Paper); MRS. MAX BAILEY (Westminster); MRS. ED NUNN (Crown Z); MRS. BURKE MORDEN (Morden Machines); MRS. BEN BECK (Oregon P & P); MRS. JOHN McEWEN (Weyerhaeuser). Missing at moment was lady who presided: MRS. BILL CLARKE (Longview Fibre).

BUSIEST MAN AND HIS MOTHER

GORDON PETRIE (left), as Chairman of Housing and Registration, had little time for anything else. He is Pacific Coast Mgr. for the Black-Clawson Cos.

AT RIGHT is Mr. Petrie's mother, MRS. ROBERT T. PETRIE, of Neah-Kah-Wie Beach on Oregon Coast who drove up to take in Ladies Tea and meet old friends. L to r: MRS. PETRIE, CHARLES E. ACKLEY, Paper Supt. at West Linn, and former Supts. National President, and MRS. ACKLEY.

Heritage, head of by-product development for Weyerhaeuser for years, made one of the final talks in which he declared "semi-chemical pulping and the use of wood waste was economical 20 years before it became popular."

Over 60,000 sawmills in the U.S.A. will become a factor in cheaper resources for woodpulp, he predicted. Integration of lumber mills with chip plants provides the cheapest chip source, brings more logs into sawmills and makes tree crops go farther.

In a papermakers session, Cecil Taylor, ex-Wausau Paper Mills, now Columbia River Mills supt., predicted something like the beta gauges to pick up changes in formation, free or slow sheet, etc., will be on almost every machine in the U. S., but he said it should be hooked up with some new kind of instrument to measure moisture, too, so the operator can tell whether he has a heavy paper or damp paper coming over—whether there is more fiber or just more water.

John Victor, St. Regis supt., indicated Rota-belt water removal increases wire life where tried in New York and Washington mills. Edge cracks were not eliminated on wires by grinding rolls and tapering couch rolls and tapering lumpbreaker rolls. But he believed if straight face rolls could be run across the full wire, as in case of lumpbreakers, edge cracks would be eliminated considerably.

Tom Grant of Publishers Paper led a sulfite round table and L. D. McGlothlin of CZ, Camas, led a kraft group.

Kraft Mill Losses—

Kraft stack losses at St. Helens, said its tech. director, Pete Taranoff, were only 10.5 lbs. per ton (as Na_2SO_4) with Koppers precipitators operating, where otherwise losses would be 170 lbs. per ton. Means to reduce stack losses, he said, were controlled draft through furnace, efficient cascade and precipitator operation, avoidance of furnace overloading, black liquor strength above 65%, good maintenance of precipitators and furnace instruments.

Hugh Wickett and Joseph C. Brown, Weyerhaeuser kraft pulp superintendents at Longview and Springfield, respectively, also discussed chemical and other losses. Mr. Wickett suggested saving of water, too, possibly by putting raw water from evaporators through surface condensers for re-use.

Mr. Brown listed a dozen causes of soda losses by leaks, boil-overs, etc., and ways to reduce soda losses.

How to Make Better Use of Manpower

By Gus Ostenson, Manager of Paper Production and R. B. Haight, Training Supervisor Crown Zellerbach Corp., Camas, Wash.

(Excerpts from a talk at Gearhart, Ore., Coast convention with emphasis on what was done at Camas mill.)

THE JOB OF MANAGEMENT is to effectively put together men, machines, and materials in a harmonious working relationship to best achieve the objective of the enterprise. You can get more and better results through people by putting thought and time and effort into building up a good, sound organization.

The consequences of poor organization are complacency, personality conflicts, inefficiency, improper balance of work, failure to accomplish objectives, cumbersome procedures and operation, poor morale and confusion.

The values of good organization are improved relationships, teamwork and morale, better communication, cooperation and coordination, fixed responsibility and authority, better supervision, a basis for training and development, better balanced work load, greater productivity, improved plans, policies and procedures, and systematic and orderly growth.

Organization Building

I would like to tell you something of what we have recently done in our paper machine organization building program.

We set out to:

(1) Clarify lines of authority.

(2) Clarify relationships of staff and line supervisors.

(3) Clarify the specific duties for handling the responsibilities at each level.

(4) Eliminate unnecessary duties and reduce overlapping.

(5) Make certain that all duties are covered by somebody without overloading any one position.

(6) Identify areas for delegation of duties.

(7) Get uniform understanding between supervisory levels of the duties and responsibilities with which each are involved.

In an organized effort to accomplish these things the paper mill supervisors met as a group once a week for approximately ten weeks in a series of two-hour lecture and conference meetings led by the production manager, the department superintendent, and the training supervisor.

In the first two meetings the production manager lectured on the principles and theory of organization, reviewed organization charts,

ON GOLF COURSE

On bench, are kibitzers (l to r): JACK SUTHERLAND of Hooker, HOKE MARTIN of Hercules, PHIL BANNAN of Western Gear and CLIFF CRAWFORD, of A. O. Smith Corp.

FINAL NIGHT AT GEARHART— lineup for dinner preceding ball

MRS. CADIGAN and ALLEN M. CADIGAN, Pulp Technical Director for St. Regis in Tacoma, Wash., at right, lead this lineup.

John W. BOLTON & Sons, Inc.

Lawrence, Massachusetts, U.S.A.

and clarified functions, relationships, and policies.

In succeeding meetings the superintendent, and his supervisors as a group identified duties of each position associated with the general responsibilities agreed upon.

Seven Principles of Organization

(1) OBJECTIVE. Ours is to make the most and best paper at highest efficiency and least cost.

(2) SPECIALIZATION. Division of our paper mill into "tissue" machines and "wrapping" machines is an application of the principle of specialization. Appointment of technical assistants, assigned specialized duties like slime control and special additive preparation, are other applications of this principle.

As our organizations grow and problems become more numerous, the management job becomes more and more complex. To assist in getting better results it has been necessary to add staff people who are specialists in many fields.

(3) COORDINATION. This requires good planning, a cooperative attitude and effective communication.

To facilitate coordination, our maintenance and operating supervisors hold short planning meetings each morning for the consideration of general maintenance work and work to be done during machine shut down; and once a week a longer meeting is held to review all the work planned for that week. We have made mechanical coordination one of the major duties of one of the technical assistants.

(4) DEFINITION. Duties and responsibilities of each position, and the relationships with other positions, should be clearly defined and made known to all concerned.

In our organization building program we have developed *Duty and Responsibility Guides*. Meeting as a group, with all members encouraged to participate freely, the supervisors worked out together a listing of general responsibilities and associated duties of each position to discharge the responsibilities.

(5) AUTHORITY. There should be a clear line of authority from the supreme authority to every individual in the group. The chain of command must be clear.

Everyone employed in any organized group is entitled to know who is his boss, how his boss gets his authority, and that he will be supported in carrying out instructions from his immediate boss.

(6) RESPONSIBILITY. Accountability for the performance of duties is responsibility; and the responsibility of the superior for the acts of his subordinate is absolute. By-passing the approved line of authority either upward or downward does not build teamwork or morale. Neither does buck-passing or alibis.

(7) SPAN OF CONTROL. Urwick states the principle that "no person should supervise more than five or six direct subordinates whose work interlocks." However, this rule may vary with the geography involved, the complexity of the functions, the nature of people supervised, etc.

Too few in the span means too many layers, too little delegation of authority, and too much expense.

Too many in the span means inadequate supervision.

Summary

Fundamentally, management is getting results through people.

To do this we must build an effective organization.

Building an effective organization is essentially a planning and training job.

You can get more and better results through people by putting thought and time and effort into the planning and training essential to building up a well-balanced, smooth-running, purposeful organization.

A good organization provides for the proper assignments of responsibility and authority and establishes the proper relationship between a man and his superior. It promotes better supervision, facilitates training, and provides a way to develop the people to their highest potential.

Through proper organization the work load can be better distributed, which helps eliminate bottlenecks and results in increased production of higher quality.

Among other things, we have been able to convert one of our most troublesome machines into a machine that runs with good spirit, at increased production and higher efficiency.

Our shift foremen are better able to plan and coordinate the job on shutdowns, and in many cases we have been able to substantially reduce wire change and machine wash-up and grade change time.

Since we have worked at our organization building program, our machine tenders have become better able and more willing to assume responsibility for the training and supervision of their crews. We have been able to better afford each man an opportunity to learn the job ahead and are now able to successfully let as many as 25 men go on vacation at one time (the time of their choice) without jeopardizing operations.

What Hot Pressing Achieves

HOT PRESSING has been successfully introduced on No. 6 Fourdrinier machine at Longview Fibre Co., Longview, Wash., resulting in a 12% to 15% increase in drying capacity, while reducing the number of paper dryers from 54 to 51.

Mullen and stiffness remained about the same and caliper was reduced 7% to 9%, resulting in increased sheet density. Steam savings ranged from about 14% on heavier weights to about 8% on lighter weight paperboard.

An accompanying photo shows the Downingtown Mfg. Co. hot press arrangement. An 8-in. wide suction box and sheet run with minimum contact with the felt. The felt wraps bottom roll and sheet wraps top roll so sheet is touching felt only at the nip. There is a minimum chance of water getting back into the sheet.

R. S. Wertheimer is vice president and manager and Carl Fahlstrom is assistant resident manager at the big 6-machine kraft pulp and paper mill. William W. Clarke is paper mill superintendent and he presented its story of hot pressing at the Coast convention in May in Gearhart—one of the most significant new developments revealed there.

Heat Reduces Viscosity

Mr. Clarke showed a chart which disclosed that raising water temperatures from 100 to 160 degrees resulted in a drop in water viscosity from 0.68 to 0.40 centipoises or about 40% in forces required to make water flow.

At Longview Fibre, direct steam was used in water going into No. 6 machine's secondary headbox to heat it to about 150 to 160°. This aided in water removal, but the sheet cooled rapidly in the presses and the method used large amounts of steam, and condensate was lost for reuse for boiler feed.

On some grades with no top stock in secondary headbox, it was found advantageous to run hot water alone onto the sheet for heating it. A good distributing device spreads water uniformly on the wire and it is a good place to use hot water recovered from low gradient heat, it was found. If it is returned to the wire pit, a temperature rise also occurs

IN NEW EVERETT POST

MELVIN W. OLSON (left), has new broader responsibilities at Everett Pulp & Paper Division of Simpson Logging Co., with his new title of Maintenance and Power Engineer, reporting to Simpson's Director of Engineering WILLIAM McKENZIE, who is moving to Everett. Mr. Olson was born in Minneapolis, graduated from U. of Minnesota and worked with General Electric, Whiting Plover Paper Co., and was Resident Engineer in Everett for Howard S. Wright, contractors, before joining Everett P & P.

LUKE V. THIEL (right), new Pacific Coast rep. for Orr Felt & Blanket Co., who was settling in new home in Portland, Ore., area. Born in Middletown, O., he was with Huyck 5 years and Shartle Bros. 22 years. The Thiels have a son and daughter, the former in Western Michigan College paper school.

THEY POURED WHEN IT SHINED

AT LADIES TEA in Gearhart, Ore. (l to r): MRS. MAX BAILEY (Westminster); MRS. J. B. BECK (Oregon Pulp & Paper); MRS. HUGH GARDNER (Buckman Laboratories); MRS. ROBERT BAER (Griffith Rubber Mills); MRS. GORDON PETRIE (Black-Clawson Cos.)

HAIL THE GOLF CHAMPION

MIDDLE MAN in this group is GLEN KING, who led all men golfers (and a fast field too, with past winner Gus Ostenson, experienced tournament golfers Harold Hilton and Harris Fenn and others). He won with a low gross of 74. He would have been sure golf style show winner too, with flaming red and yellow cap, jacket and slacks (too bad this isn't in color). MR. KING is Technical Director at Crown Z, West Linn. The men who pushed him to his "record" were KEN JONES (left), Ross Engineering, Seattle, and ROBT. HOLCOMB, Fibreboard Products, Port Angeles.

HOW TO REDUCE KRAFT OPERATION LOSSES

SODA LOSS TO SEWER, stack losses—even water losses—were among kraft operations given good hard look by this trio (l to r): HUGH WICKETT, Kraft Pulp Supt., Weyerhaeuser, Longview; JOE C. BROWN, Kraft Supt., Weyerhaeuser, Springfield, Ore., and PETE TARANOFF, Technical Director, St. Helens Division of Crown Z.

NEW ERA OF MECHANICAL BARKING FORESEEN

TRIO OF SPECIALISTS talked about shipping chips by rail, trends in barking and wood utilization at Gearhart. L to r: TOM R. MILES, Consulting Engineer for new Wood Products in Portland, Ore.; WILLIAM E. BEEMAN, Crown Z Log Buyer, who forecast new era of chain, cutterhead and other mechanical barkers; EDMUND ERICKSEN, Longview Fibre Co. Wood Procurement Engineer.

A CHERRY RIVER "ALUM"

JOE L. JANECEK (left), veteran Gen. Supt. of Inland Empire Paper Co., and Mrs. JANECEK came over from Spokane for Gearhart Convention. Joe has claim to industry fame as one of "alums" of famous, now defunct, Cherry River mill in West River, where many prominent figures in industry got started.

Camera Tour at Gearhart Meeting with *Pulp & Paper* editor

THEY TALK WIRE AND FELT QUALITY

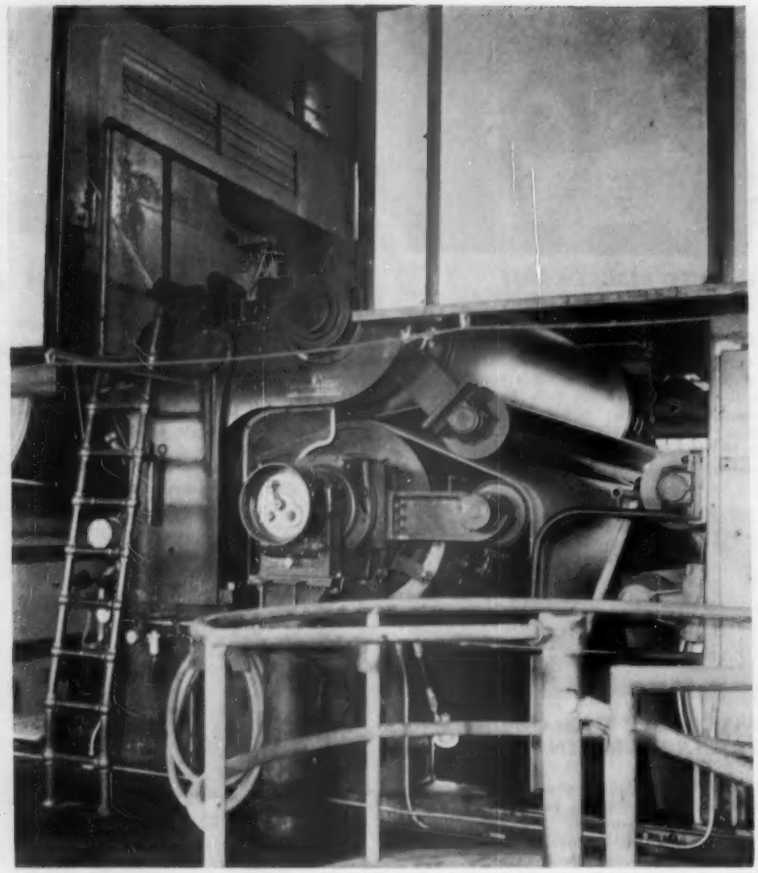
AT PAPERMAKERS session in Gearhart were (l to r): JOHN M. FULTON, Director of Purchases for all CZ Mills and Operations; JOHN VICTOR, Paper Supt., St. Regis, Tacoma, Wash.; CLARENCE P. BROWN, Supt. of Wrap Paper Machines, Crown Z, Camas, and CHARLES E. ACKLEY, Paper Supt., Crown Z, West Linn. Mr. Brown has been back at Camas as one of two Papermaking Supts. for over year, after sojourn at Champion in Texas.

AM. CYAN. STRENGTHENS

WHERE THERE were two, now three men, serve Am. Cyanamid in Pacific Northwest. OWEN M. ("DOZE") CORNELL (left), new Pacific Northwest Mgr. for American Cyanamid Co. Paper Chemicals Dept., based in Portland, Ore.; R. W. LULL, Technical Specialist for paper industry on Coast, Portland, Ore., and ED GARRISON, retired Pacific Coast Mgr. of Seattle, who is continuing in an advisory capacity. Mr. Cornell, 30 years with Am. Cyanamid and predecessor companies, went west from Cleveland office. Born in Wattsburg, Pa., he graduated from Allegheny College in 1922 as Ch.E. New residence is 3030 Northwest 29th, Portland, Ore.

REPRESENTING E. D. JONES

CHARLES H. VICKERY (left), who heads all sales for E. D. Jones & Sons Co., Pittsfield, Mass., manufacturers of refiners, jordans, stock treatment machines and other papermaking machinery, went out to the Gearhart Convention to be with his new Pacific Coast representative, HOWARD GERBER (right). Mr. and Mrs. Gerber live in Portland Towers, Portland, Ore. He was formerly an associate in Williams-Gray Co., Chicago.



HOT PRESSING ON LONGVIEW FIBRE MACHINE

THIS PICTURE shows new Downingtown hot press arrangement on No. 6 Paper Machine at Longview Fibre Co., which was one of the outstanding new things discussed at Gearhart Convention. Paper Supt. W. W. CLARKE told how it works. This shows an 8 in. wide suction box and sheet run with minimum contact with the felt. Felt wraps bottom roll and sheet wraps top roll so that sheet is only touching felt right at nip. So there is a minimum chance of water getting back into the sheet. In 8 in. wide suction box are two inches of contact at the nip, so actually it is bleeding on both sides of the nip.

in the primary stock system.

Ten 60-in. dryers were taken from the first dryer section and seven of these were re-installed directly after the second suction press. A suction press with 38 in. rolls capable of giving 500 lb./in. nip pressures was installed directly following. The suction roll has a cover of 3/8 in. hard rubber, while top roll has a 1-in. thick self-skinning cover of 45 Pusey & Jones plastometer.

Pre-heating Sheet

Pre-heaters are equipped with top and bottom felts and return felt dryers. The hood over this section has no ventilation and is built to cut down natural air movement as much as much as possible. Nevertheless, there is enough evaporation in these heaters to keep the temperature from going much over 160° into the hot press.

Two methods for measuring sheet temperatures are used: One is with a Cambridge pyrometer and the other with a regular laboratory thermometer held next to the sheet and shielded with several thicknesses of paper next to the web so that the only air which touches the thermometer bulb is that which is carried by the sheet travel into the pocket formed by the paper and the wet sheet. By these methods the sheet temperatures are indicated to be 160° to 163° ahead of the hot press and 140° to 142° after the press. The water removed from saveall tray of the press is about 100°. Perhaps higher sheet temperatures could be reached if the area between the preheaters and press could be entirely closed off to prevent the evaporation which results from air circulation in this space, said Mr. Clarke.

Average conditions entering the dryers were about 32 to 33° dry fiber. With the second suction press in operation the sheet coming out of the hot press became drier. Amount of drying in the pre-heaters as expressed in dryness figures, ranges from 2% to 9% loss of total water at this point. There is an appreciable loss of moisture from evaporation. The number of dryers in this section is more than needed for rates presently being run. Water removed by hot press is moisture that cannot be removed except by pressing at elevated temperatures or by drying and should be considered the gain of this system.

Calipers on all grades were down considerably with hot press running. Less steam is needed to dry the board. The lowered steam pressure necessary in calender dryers indicates less water or starch solution being picked up from the box on the calenders, and this is borne out by actual usage on the grades where starch is used and accounted for.

Moistures are more uniform across the reel with the suction hot press than they were before because high moisture streaks are less likely to occur going into the dryers following a suction press.

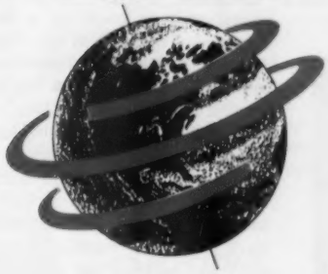
"We do have a shell mark on the bottom side of the sheet which is not objectionable on liner grades" said Mr. Clarke. "Light weight grades run when the press felt is thin will show shell mark through to the top side of the sheet.

"Choice of style of felt is important because felts with hard or prominent warp yarns will give yarn marking. The definite reduction in caliper from hot pressing indicates that the sheet will not readily recover from impressions made at this press.

"Papermakers recognize the fact that the sheet becomes more tender in the first dryers in a machine where the web is being warmed but no appreciable drying has occurred. Handling of the sheet at this point can be a problem and we have found that it is hard to do by hand, however, using automatic rope passes the sheet works well and does not crush or give trouble in the press.

"The results of reducing the number of paper dryers from 54 to 51 and revision of the machine for hot pressing," said Mr. Clarke, "increased drying capacity by approximately 12 to 15%. Mullen and stiffness remained at about the same figures. Caliper was reduced 7 to 9% with resulting increase in sheet density. Steam savings on the overall operation are indicated to be about 14% on heavier weights down to about 8% on lighter weights of board of total previously used."

Over 750 Installations
in 22 Countries
Throughout the World



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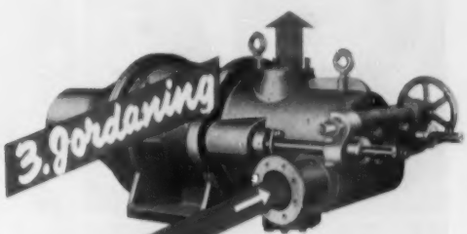
EACH MORDEN MACHINE is engineered, standardized and proven in one of these basic treatments.

EACH MILL'S requirements suggest various applications.

OUR EXPERIENCE in assisting mills to develop simple, effective and economical stock preparation systems is available to you upon request.

MORDEN SLUSH MAKER®

...for completely defibering all pulps, papers and brokes (even wet strength) without auxiliary equipment.



MORDEN STUFF MAKER

... for cutting or shortening where required to obtain specific sheet properties.

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...for brushing, fibrillating and hydrating individual fibers for maximum strength development.

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Why Migratory Peddlers Were Formed

WELL OVER 200 men who rose bright and early for the breakfast show of the International Brotherhood of Migratory Peddlers at the Gearhart, Ore., Convention included very few who are aware of the serious purpose and the *raison d'etre* of that ostensibly fun-loving organization.

Zina Wise, president of Griffith Rubber Mills, and Ray Smythe, representative of Rice Barton, Heppenstall, Sutherland and other manufacturers, are generally recognized as the Peddlers' "founders."

A SAGA OF MEN AND MACHINES

A SEQUENCE OF SCENES FROM "BIRTH OF A SALESMAN" as presented at Gearhart—pictures by PULP & PAPER:

(1) **PROF. FOURDRINIER (RAY SMYTHE), *flanked by assistants* BILL MARSHALL *(left) and* MILT MAGUIRE *(right).***

(2) **The Professor's "man-making" machine starts up with noise and lights. *Note meters on it. A lot of engineering hours went into this.***

(3) **Peddlers present to witness the great event (l to r): PETE PETERSON, JOHN AYRES, BOB BAER, BOB SMYTHE and HUGH GARDNER.**

(4) **MR. GARDNER *throws a knife (for stabbing another peddler in the back) into the machine to help fill the recipe.***

(5) ***Out comes the new Member*—BILL CLARKE—*in "natural state." But they shoved him back, threw in clothes*—**

(6) **And here he is, respectable, with the Professor on left, MR. WILCOX on right.**

Their first serious objective was just as simple as this—to get delegates out of bed after the first day of the convention so they would be wide awake and on hand for the second day's proceedings. The most "painless" way to do it, they decided, was to cook up a vaudeville show—a "Wake 'Em Up Breakfast." A lot of writing and theatrical talent among Coast salesmen has been revealed in the years since.

But the Peddlers have had many other responsibilities and activities since then. Out on the Pacific Coast, they were the first group in this industry to popularize the idea of having social parties before and after the convention dinners for the entire body of delegates, reducing greatly the undesirable congregating of separate little groups.

Another thing they did on the Pacific Coast was to put on the most complete and high class ladies' programs ever held at any conventions.

The Peddlers on the Coast also inaugurated a policy of sharing costs for prizes, entertainment, etc., equally in an organized plan.

And, finally, they have taken over much of the tedious work of handling all kinds of details such as registration, housing, etc.

The policies they inaugurated are now being carried out elsewhere in U. S. and Canada, raising standards of many industry meetings. R. S. Wertheimer, vice president and manager of Longview Fibre Co., personally paid tribute at Gearhart to the pioneering the Peddlers have done in this "up-grading" of convention conduct. The Peddlers have two divisions—Waiting Room No. 1 in Portland, Ore., and Waiting Room No. 2 in Seattle. They have a number of honorary members and members-at-large scattered over the U. S. and Canada.

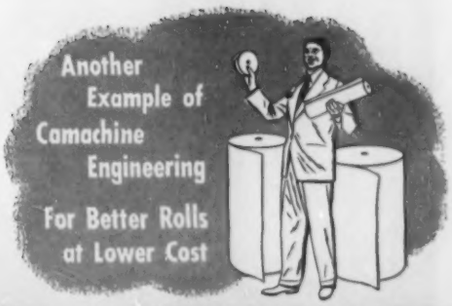
That's the backdrop to the show the "Birth of a Salesman," illustrated in pictures on this page, which regaled the delegates roused from their slumbers by ordered wholesale phone calls at the 1954 Gearhart Convention.

William W. Clarke, paper mill superintendent, Longview Fibre Co., was initiated as an honorary member of the Migratory Peddlers.

Ray Smythe was Prof. Jacques Gaston Fourdrinier, inventor of a $1000 wire that lasts 15 min. At behest of Jack Wilcox and other Peddlers, he built a fantastic Rube Goldberg machine that "produced" a new member. President Sid Drew was m.c. of the show; Ben Natwick manipulated the machine. They built the machine, and with Herb Beck were largely the creators of this year's show.

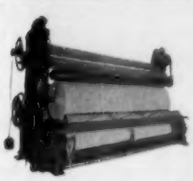
Hydraulic RIDING ROLL LIFT

Smooth-acting, balanced control with no manual effort. Hydraulic cushioning prevents shock at the maximum upward-travel point of the piston and assures impact-free contact between riding roll and rewind shaft at the start of winding. Automatic operation reduces down-time between sets.



CAMACHINE TYPE 20

Widths to 310". Maximum rewind capacity may be either 42", 60" or 72" dia. Speeds up to 5,000 fpm* on paper and paperboard.



CAMACHINE TYPE 19

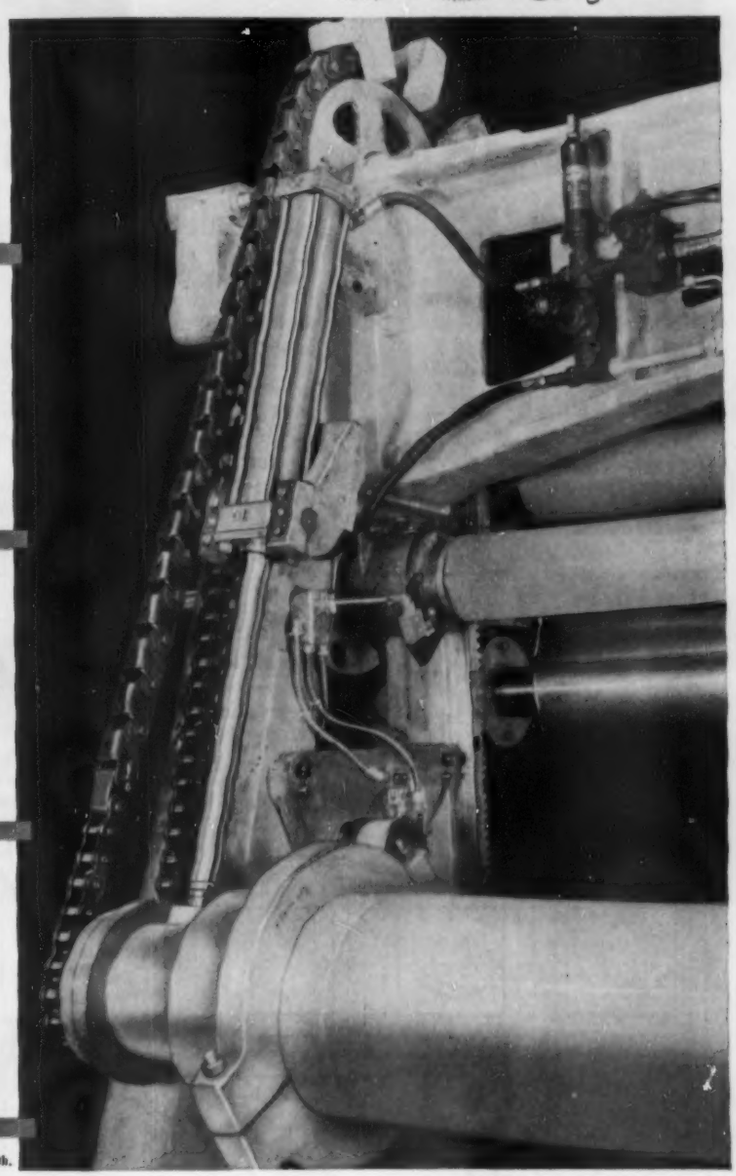
Widths to 192". Maximum rewind capacity may be either 42", 60" or 72" dia. Speeds up to 3,500 fpm* on paper and paperboard.

CAMACHINE TYPE 18

Widths to 150". Maximum rewind capacity may be either 42", 60" or 72" dia. Speeds up to 2,500 fpm* on paper and paperboard.

CAMACHINE TYPE 14

Widths to 92". Maximum rewind capacity may be either 38", 50" or 60" dia. Speeds up to 1,800 fpm* on paper and paperboard.



*Speeds depend upon characteristics of material and machine width.

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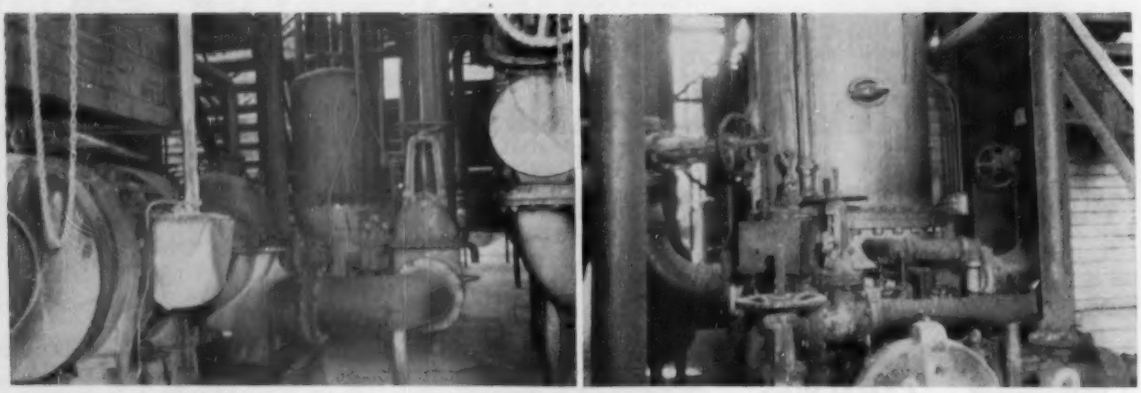


WHERE NEW FILTER FITS IN—AND CLOSE-UP VIEW

GROUND FLOOR of new washer-screening building at Gaylord showing Goulds centrifugal pump (left) that brings water from filter room. Cuno Engineering "Flo-Klean" filter at center.

CLOSE-UP of Cuno "Flo-Klean" filter with intake and cut-off valve at left. Box at left center houses back-side filter plate wash control device with pipe for flushing leading back from right to center.

How New Washing-Screening Set-Up Succeeds at Gaylord

HIGH EFFICIENCY in washing and screening is being enjoyed at Gaylord Container Corp., Bogalusa, La., from its new installations. Preparatory engineering for these new units was reported at the Houston (Tex.) Alkaline Pulping Conference (see PULP & PAPER, Jan. 1954).

Modifications based upon operating experience have been made to insure the benefits realized. Various new machines and auxiliary equipment are installed in a new multi-floor structure adjoining existing filter and recovery buildings.

The new system includes an Improved Machinery, Inc., washer having three 11½-ft. diameter stainless steel drums set in a 16-ft. wide vat, and preceded by three pre-knotters with stainless steel for contact with pulp. These are ranged across the vat, with gate arrangements whereby if one knotter is down for service the pulp will be routed through the other two. Rated washer capacity is 460 tons per day, with customary calculations for overload, etc. The washer is controlled by Foxboro instrumentation, and driven by Reliance Electric & Engineering Co. installation. The repulper blades are contra-spiral.

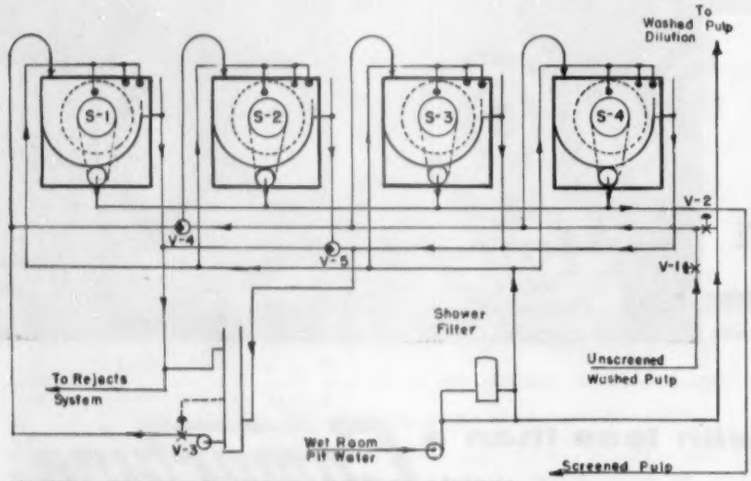
At Gaylord thickeners are used after screening as a stock washing stage and are of vacuum type to fit into the mill's system of water handling. The wet room (for thickeners) is in an original building. The system's water flow is as follows: paper machine white water is used as shower water on the filters following screening. Drainage from these filters is collected in a 500,000 gal. reservoir and used (1) to dilute pulp for screening, (2) to furnish shower water for knotters and screens, (3) to furnish washing and dumping water to diffusers, and (4) to furnish water to be heated and used on the displacement showers of rotary washing systems.

Water must be pumped 50 ft. above ground level to reach the big, new Impco washer. Pulp drops by gravity to screens on the floor below, and from there by gravity to the thickeners. The operators adjust the quantity of shower water used on the filters following screening to maintain the level of the reservoir and to prevent it from running over.

Filter Is Key to Water Re-Use

Water for diffuser washing, washer showers, Lindblad screen showers, and washer pulp dilution is pumped from the reservoir by means of Peerless pumps. The water for diffuser washing and washer pulp dilution is not heated or filtered. Water for the vacuum washer showers is heated with blow heat and filtered through a Cuno Engineering "Flo-Klean" filter and elevated to the washer showers by a Goulds centrifugal pump. Unheated water for the Lindblad screens is boosted by a Goulds centrifugal pump and filtered through a Cuno "Flo-Klean" filter.

By means of a small pump mounted on the filter some of the filtered water is returned continuously to the filter for back-wash. The filter purges automatically every ten minutes (the frequency of purging may be varied) and the purge is returned to the system. The automatic valve is operated by filtered water, and to further protect the operating mechanism this water is filtered through a disk filter ahead of the valve.



FLOW DIAGRAM OF IMPCO LINDBLAD SCREENS

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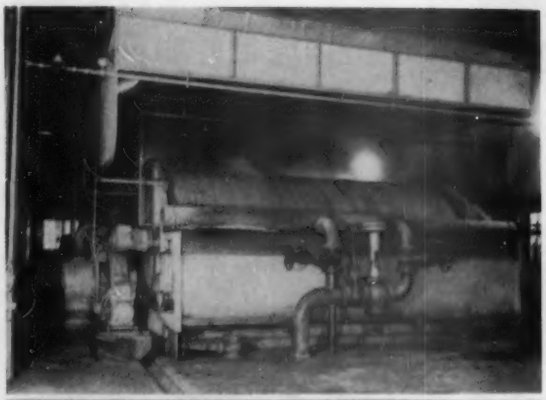
After logging in Western New York, Paul Bunyan grabbed up a handful of topsoil for use in setting out new seedlings. So mighty was his scoop that the resulting depressions formed the beds for what are known today as the Finger Lakes.

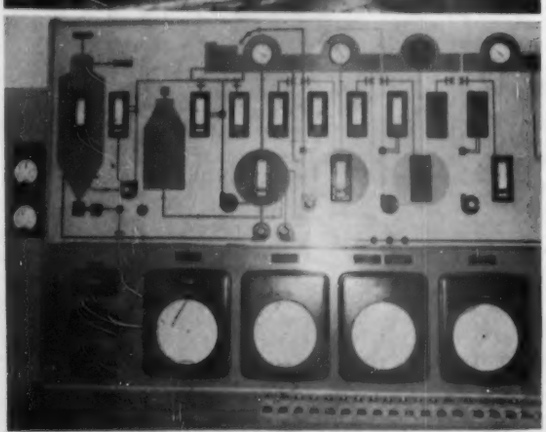
A reproduction of this incident from the fabulous life of Paul Bunyan—the seventy-seventh of a series—will be sent on request. It will contain no advertising.



NEW WASHER AT GAYLORD

LARGE 11½ by 16 ft. Impco stainless steel washer has nominal capacity of 460 tons/day. View shows Reliance drive.

PRE-KNOTTING is done here, ahead of Impco washer. The surfaces in contact with pulp are of stainless steel.



GRAPHIC PANEL shows part of Foxboro instrumentation for the Impco washer.

CLAYTON B. OGILVIE (left) supervised modification of the Lindblad screens for Impco. At right, ART REED, Gaylord cooperating engineer.

In operation, it was found that water from the Cuno filter was satisfactory for knotter and washer showers but that "fresh" water is desirable for the seals, which are of Neoprene and kept under 20 lb. pressure. A pulp storage capacity of 800 tons at 18% consistency is provided by tanks after the washer-screening installation.

How Screening Set-Up Operates

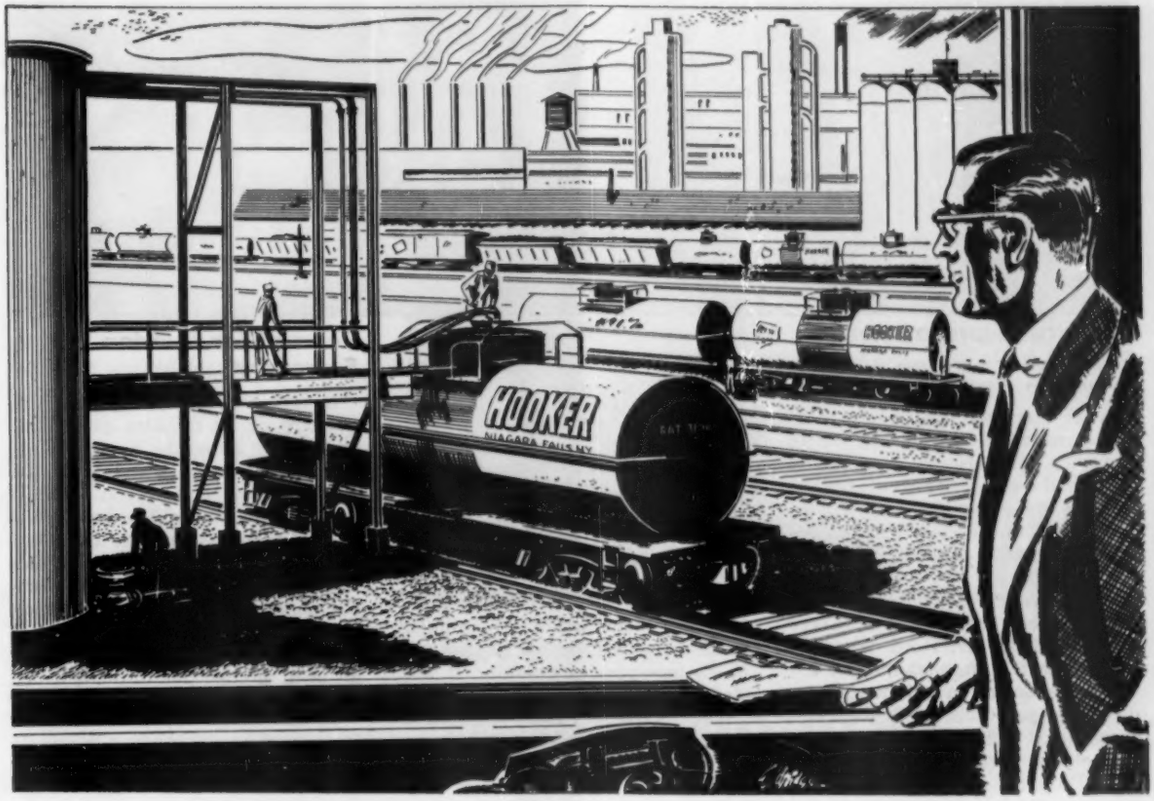
Unscreened pulp from washers on the floor above reaches the four Improved Machinery, Inc., Lindblad high intensity screens at 2.0-2.5% consistency. This pulp at a controlled consistency of 3.5% is pumped through an air-operated plug valve and is mingled with diluting water through another air-operated valve to give desired consistency in the range of 2.0-2.5%. Both valves are operated from Foxboro instruments on a panel installed on the screen deck, affording the operator close control over rate and consistency. Diluted pulp flows to three of these screens as primary and accepted stock from these to the thickeners. The Lindblad screen slots are of 0.24 in. size.

Rejects from the primaries flow to a stand pipe from which a stock pump moves them to a fourth (No. 1) Lindblad screen used as a secondary. An air-operated plug valve operated by level control maintains a constant level in the stand pipe, providing a smooth flow to the secondary screen. Accepted stock from the secondary screen joins that from the primaries while rejects go to the old tailing system. Plug valves and piping permit use of No. 2 (adjoining) screen as secondary in case No. 1 is down for service.

The Lindblad screen installation, using stock of 2.0-2.5% consistency requires 3,400 gpm, 106 hp for drive power, an annual power cost of 5.1% capital costs (including interest, insurance and taxes) of 15%, and has an estimated annual operating cost of 6.3% less for this particular installation than centrifugal screens required for the same performance, according to Gaylord engineers.

It was estimated that using the Lindblad installation as 100%, the centrifugal screen installation for the same task would have required 19.4% more capital investment.

Based upon experience, three specific changes have been made in the Lindblad screens, each being taken one-by-one so that the remaining three performed essential service. The installation was engineered for a production of 465 tons per day, with the customary mill considera-



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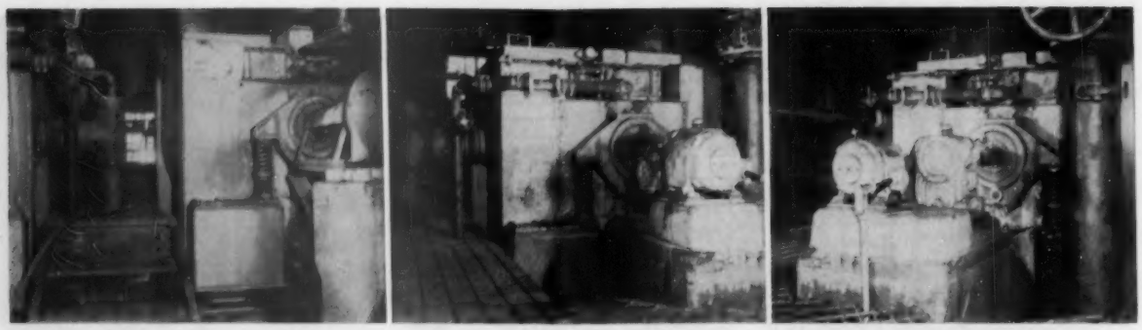


VIEWS OF LINDBLAD SCREENS

(Left) At level of second step, new rubber mounting to reduce vibration. (Center) Front and discharge side of screen. (Right) Front and inflow piping.

tion for over-load conditions generally experienced in month by month operation. The original bearing has been replaced by a heavier unit, a heavier cover provided, and a rubber mounting installed. This has resulted in cutting intensity of vibration by 25%.

In this work Improved Machinery, Inc., has been represented by Clayton B. Ogilvie. Art Reed, who had been in part of the planning for the washer-screening installation is now directing operations for Gaylord and cooperated with Mr. Ogilvie. The project was reviewed for the Alkaline Pulping Conference by F. Cooper Ratliff, Gaylord process engineer.

Calculations had been that the four Lindblad screens would handle an average of 125 tons/day each of stock as clean or cleaner than centrifugal screens already installed and in use at Gaylord. Quality of pulp was expected to be satisfactory for manufacture of cylinder liners, wrapping and bag papers, and in 465 tons per day quantity. It was also anticipated that if a primary spilled excessively due to such a thing as shower stoppage, the secondary would handle it.

Production rates have been at a satisfactory high level, with overload capacity to permit the one-by-one changes in screens. It also was determined that the screens were not too sensitive to pulp mill shocks, that where considerable variation may occur in primary screenings they are leveled out by the secondary, and that screening efficiency does not appear greatly affected by rate or proportion of screenings in the pulp.

NEW WASTE WOOD CHIPPER

A waste wood chipper especially designed for sawmills who wish to make chips economically is offered in three disc sizes: 36", 42" and 48". Under normal operation these chippers can produce up to 15, 18 and 22 cords per hour respectively with low horsepower.

Tests made on southern pine slabs indicate that the chips produced by these machines may not need screening. The economy factor from this point alone is considerable. Most sawmills can pick enough clean wood off their waste conveyor to make a chipper installation well worth while, even without barking.

These chippers are ruggedly constructed and are designed especially for easy installation and low maintenance. These chippers are produced by the Hansel Engineering Company, 1500 Westlake Avenue North, Seattle 9, Washington. Inquiries in the South may be made to Owen-Richards Company, 1009 2nd Avenue North, Birmingham 4, Alabama.

Comparative tests made with the Hansel chipper and other chippers on Southern pine slabs indicate that the Hansel chipper makes a superior paper with greater strength. As a result of these tests several of these chippers are being ordered by a large kraft mill in the South.

(ADVERTISEMENT)

Probst Joins Eastern

Richard Probst, assistant general manager of Oregon Pulp & Paper Co., returns to East as new vice president and gen. mgr. of Eastern Corp., Bangor, Me. He will work under an old associate at Oxford Paper, Harold Holden, now president of Eastern. Dick Probst is an Institute of Paper Chemistry grad and was also formerly with Gilbert Paper.

Supts. Discuss Shipping

Proper loading of freight cars saves money, related A. W. Hamrick at the May 27 meeting of Michigan Superintendents. Mr. Hamrick is a field engineer for Signode Steel Strapping Co.

Failure to use all facilities available in a standard freight car, according to Mr. Hamrick, results in extensive damage to car shipments.

Reward for Morden Secretary

It isn't often a secretary in this industry or its affiliates gets a trip all the way across the country to attend a convention but that is the good fortune of Miss Kay Fralick, secretary to Burke Morden, president of Morden Machines Co., Corbett Bldg., Portland, Ore. Miss Kay was chosen to assist at the Get-Together Party of the Superintendents Convention in late June at Montreal. Mr. Morden completed his term as chairman of the affiliates division at this convention.

"Blessed Events" Not Only for Mill Sponsors!

Startup of Ketchikan Pulp Co., which made its first roll of pulp May 20 and has been running steadily ever since, was not the only "blessed event" of the unique new Northland industry settlement. Four children were born in staff families in the April-May startup period—boys for Don Bell, asst. personnel and safety supervisor, William Belton, finishing, and John Erickson, power plant, and a girl for Russ Burnett, instrument dept.

Oakley Dexter Dies

Oakley W. Dexter, of Seattle, assistant vice president of Crown Zellerbach Corp., and president of its affiliated International Pulpwood Supply Co., Vancouver, B.C., died May 29 at Swedish hospital, Seattle, at the age of 54.

Mr. Dexter was former purchasing executive in San Francisco for all the Crown operations and during World War II was loaned to the Navy for a key post as its coordinator of conservation. He moved to Seattle in 1946 as assistant to Vice Pres. Don Denman and became senior executive for Olympic Peninsula and Seattle area activities after Mr. Denman moved to San Francisco. His widow, Margaret, a son and daughter, three grandchildren and his mother survive.

PERSONALS — Continued

PACIFIC NORTHWEST NOTES

L. C. ALEXANDER, R. WILLIAMSON, J. W. BARBER and *F. C. GEIPEL*, all with experience in Longview Fibre Co's turbine and boiler operations, have been promoted to new positions of shift engineers, and will work under shift maintenance foremen.

HARRY E. JONES, retired steam engineer at Crown Z, Camas, Wash., where he worked for 40 years, was married June 4 to Julia Baz, longtime resident of Camas. Mr. Jones is father of *ELTON B. JONES*, Seattle attorney and member for U.S.A. of the International Pacific Salmon Fisheries Commission.

WILLIAM McKENZIE, director of engineering for Simpson Logging Co., will be settling in a new home in Everett, Wash., to be closer to Everett Pulp & Paper Division.

LUKE V. THIEL, new Orr Felt & Blanket rep. on Pacific Coast, has a son in the paper technology course at Western Michigan College. The Thiel family, many years residents of Ohio, are going to settle somewhere in or near Portland, Ore.

IRA KELLER, former executive vice president of Container Corp. of America, is head of newly organized Keller Co., promoting and consulting on projects for wider wood utilization.

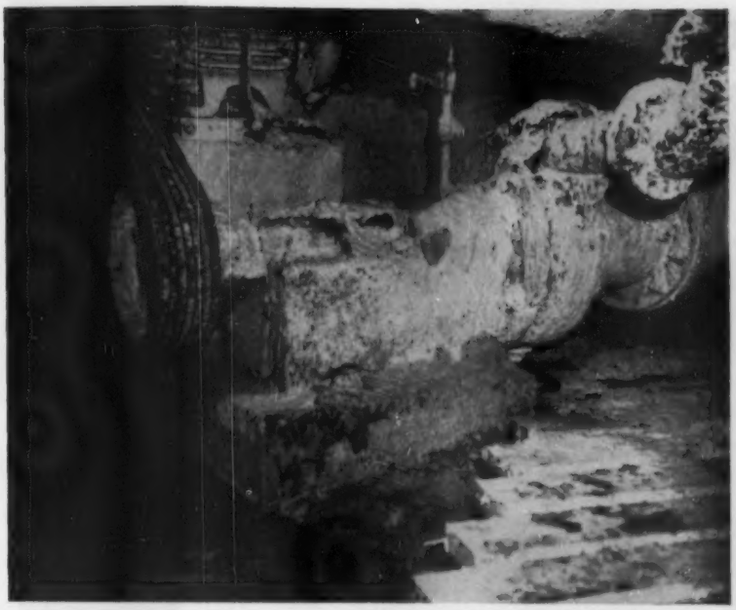
PHIL BANNAN, vice president of Western Gear Works, Seattle, and wife, Dyla, were recently busy with family events of importance. Daughter Patti was married Apr. 24 and on May 1 Daughter Carmel and her husband presented the Bannans with second grandson.

"GOB" DES MARAIS, sales manager of industrial chemicals for Geigy Co., became a grandfather during his trip to Gearhart, Ore.

HARRIS FENN, Pacific Coast mgr. for National Aniline, partnered with Pete Fleming, well known Midwest golfer, and they finished a good fourth in San Francisco's recent Open. They scored 203, just three strokes behind winner. Mr. Fenn had experience of playing every match before large galleries.

Scott Is Not Interested

Rumors that Scott Paper might enter the container field were firmly squelched by Vice Pres. William R. Scott III's exclamation: "Perish the thought."



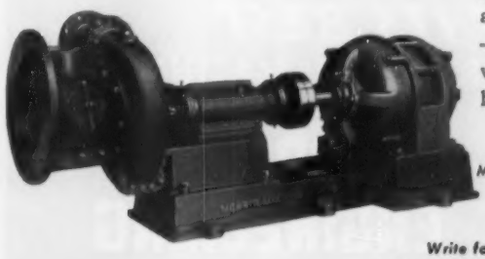
Here's what stock pump

Dependability looks like!

This is a Morris Stock Pump in the basement of a well-known paper mill. As you can see, the accumulation of paper waste covering it hasn't been disturbed — not once in the last 7 years. No need to. Day after day, this 4-inch Morris ST-P has delivered 150 tons of 3½% consistency paper stock to the head box against a 65-foot total dynamic head—without breakdown. That's *dependability!*

More Output With Less Power and Maintenance

Owners are usually amazed at the sustained efficiency and the lower power, labor and maintenance costs of the Morris ST-P Stock Pump. The accurate balance of all rotating parts—the smooth, vibration-free operation—and the outstanding wearability of all parts —give maximum value for the dollars invested.



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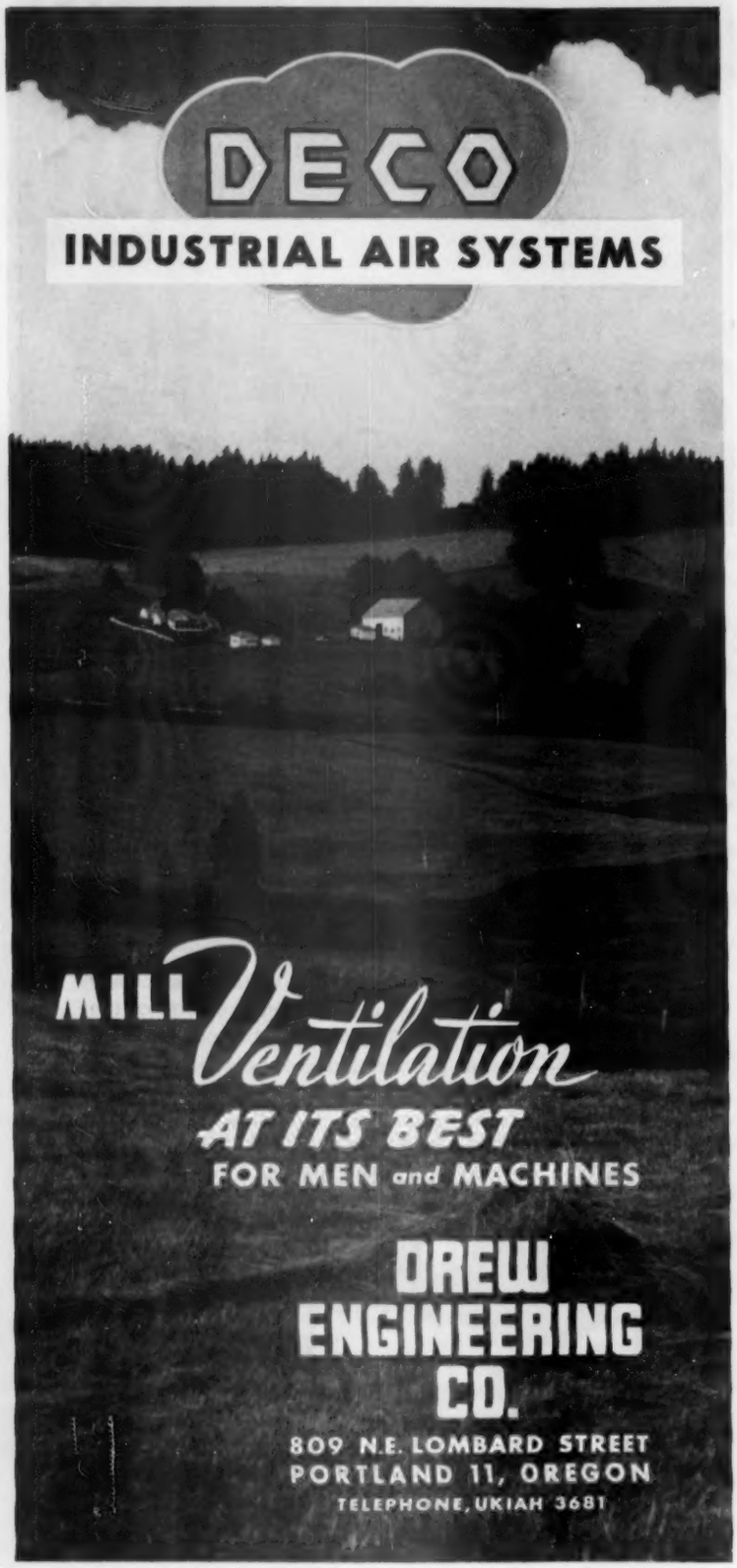


W. H. MILLER has been named director of sales for Sonoco Products Co., Hartsville, S.C. With Sonoco for over 20 years, Mr. Miller served with production and standards department, was assistant to the president, during past year served company's Mexican subsidiary, Sonoco de Mexico.

DIRECTS SONOCO SALES

Walter DeLong of St. Regis Dies

Walter DeLong, pioneer of market woodpulp development in U.S. and a director of St. Regis, died in his 73rd year at Tacoma, Wash., June 8.

Mr. DeLong had been manager of St. Regis' Tacoma operations and earlier was manager of Puget Sound Pulp & Timber in Bellingham, Wash.

A "How To Do It" Idea for Bull Screens

Walter Collings and William Rose of Crown Z's Ocean Falls, B.C., mill have submitted a winning suggestion—to put fabricated discs on the sprockets of the bull screen in the groundwood mill to prevent chain slipping. The idea netted the contributors $190 each, and is said to have resulted in substantial savings to the mill.

Gepp Dies, Known in U.S.

Sir Herbert Gepp, dynamic Australian industrialist who became managing director of Australian Paper Mills in 1936, died recently, aged 77. He toured U.S. and Canada two or three years ago and made many friends in the industry.

LEAD OHIO TAPPI

LEADERS of Ohio Section of Tappi, snapped at closing session (Ladies Night) of 1953-54 season (l to r): HAROLD JOINER, newly elected Chairman; GEORGE W. PRINGLE, President of national Tappi; WM. H. AIKEN, incoming Vice Chairman; JOHN L. CLOUSE, retiring Chairman.

DONALD C. PORTER celebrates two anniversaries this year.

Two Celebrations for Porter

Donald C. Porter, manager of LongLac Pulp & Paper Co., marked two important anniversaries recently—his 25th year in the industry and his 5th year with the Canadian subsidiary of Kimberly-Clark Corp.

Don Porter joined the K-C Organization fresh out of Marquette University with a chem. e. degree in 1928.

When Kimberly-Clark established its sulfate mill on the north shore of Lake Superior, Mr. Porter was chosen as manager and took up his duties in 1948 as the mill neared completion.

Bob Stevens Goes to Sweden for New Mill

Robert W. Stevens, paperboard mill consultant of Los Angeles, has gone to Sweden in his capacity as American consultant to Fiskeby Fabriks A.B. of Norrkoping, Sweden.

The new paperboard mill, equipped largely by Black-Clawson, started operations last December. The machine, trimming 144 inches, was built by Black-Clawson.

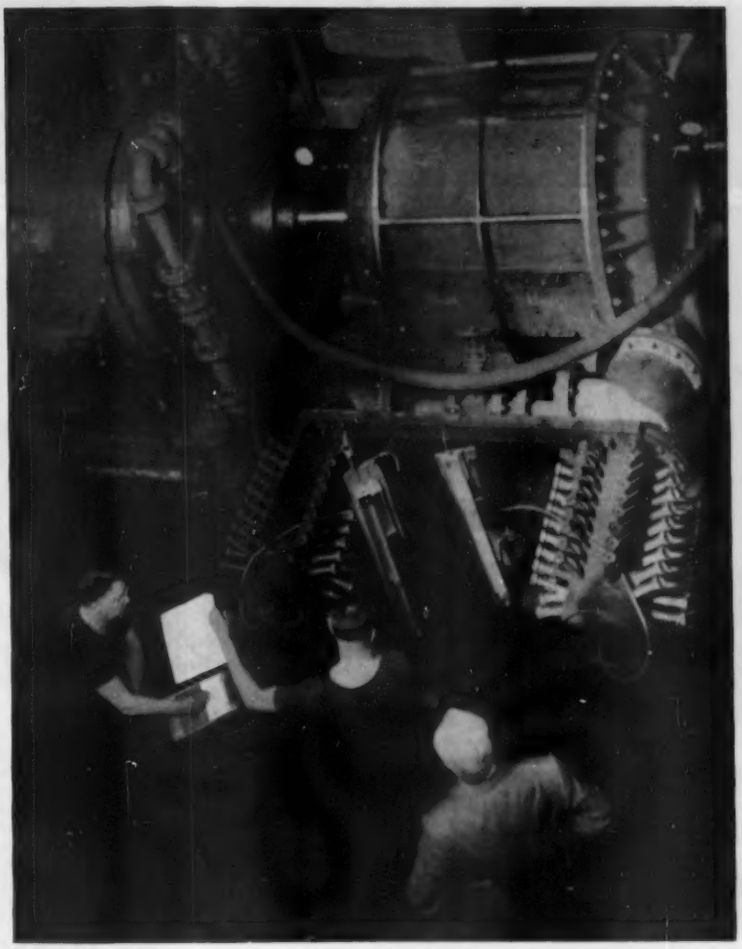
Glenn Succeeds Hellstrom

Harry Glenn is new vice president and general manager of Paper Machinery Ltd., Paper Mill Equipment Ltd., and Hydro-Turbine Ltd., of Montreal, owned by Canadian Foundries, succeeding Gus Hellstrom, retired.

K-C MIDWEST REP

D. H. KECK is Midwestern representative for Kimberly-Clark Corp. and its subsidiary Munising Paper Co., whose Chicago offices have consolidated in recent move to Merchandise Mart 7th floor. Mr. Keck has been 29 years with K-C, in Chicago sales office since 1940. Became Midwest sales rep in 1946.

Rated performance of every Nash Vacuum Pump is assured by this precise laboratory test



Rated capacities of Nash Vacuum Pumps are not theoretical. Every Nash Pump is tested individually. Air capacity is determined by delivery thru accurately machined and calibrated orifices. Related vacuum is measured by precise mercury column, and horse power is recorded electro-dynamically. Records of these tests are retained by us, and certified copies are available to Nash Pump owners.

That is one of the reasons why Nash Vacuum Pumps are installed in over a thousand leading Paper Mills. An engineer from Nash will be glad to survey your mill, and make recommendations, entirely without obligation to you.

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Sumner Iron Works, Everett, Washington, W. Coast Rep.; Canadian Sumner Iron Works, Ltd., Vancouver, B. C., Canadian Rep.

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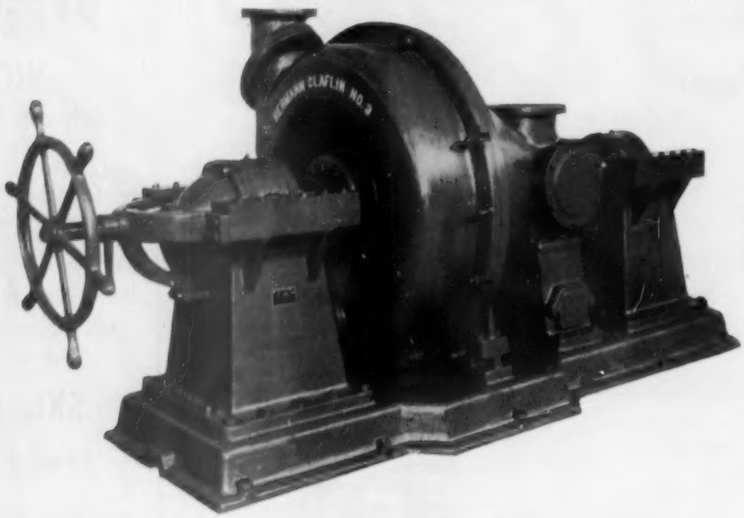
Torre Ahlen, for many years representative at Three Rivers, Que., for Swedish equipment, has moved to Vancouver, B.C., and is entering business as equipment representatives with A. Halvar Lundberg and his son, Lennart, of Seattle.

They have formed Lundberg-Ahlen Equipment Co., of Vancouver, B.C., with Mr. Ahlen as president, A. H. Lundberg, treasurer, and Lennart, secretary.

A. H. Lundberg Inc. has been organized in Seattle, offices in Orpheum Building, with A. H. Lundberg as president.

CLAFLIN continuous beaters & refiners



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- Sealed chest keeps collection of stock fibers in chest area to an absolute minimum.
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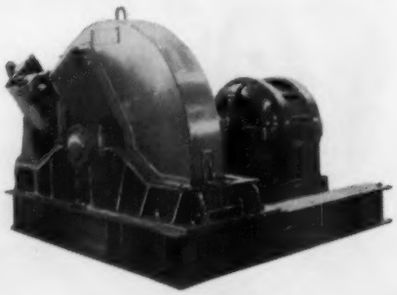

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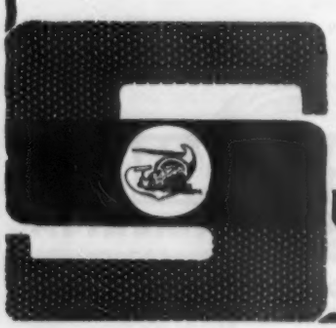

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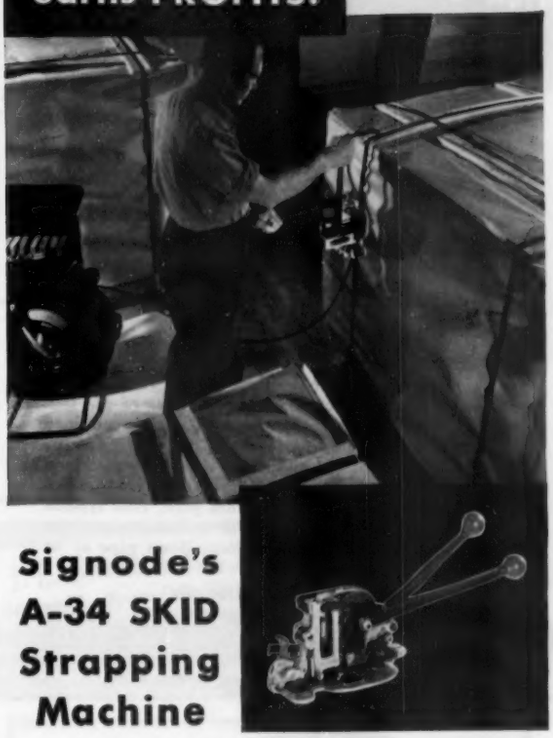

Signode's A-34 SKID Strapping Machine

Here is the tool that Signode developed especially for strapping skids, pallets and cases of paper. It speeds shipping, saves time and man power and lessens fatigue when volume shipping demands continuous operation.

The A-34 is the lightest tool ever built for applying ⅝" and ¾" strapping. Yet it tensions, cuts and seals without help from any other tool. Tensioning is done almost effortlessly to the full strength of the strapping. It wastes no strapping, cutting ends flush with the seal. The 75 seals in the magazine are fed automatically into the sealer jaw. Any employee can learn to operate the A-34 in a few minutes. With practice, he will become efficient while operating at high speed.

Increasing the number of skids strapped and shipped daily, without increasing shipping costs, can result in more profits. If you have not seen the tool in action that can help earn it, ask to have Signode's A-34 demonstrated in your shipping room. You'll be under no obligation whatever. Write

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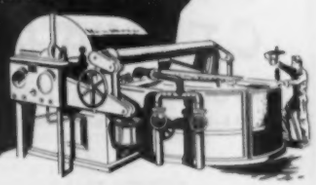

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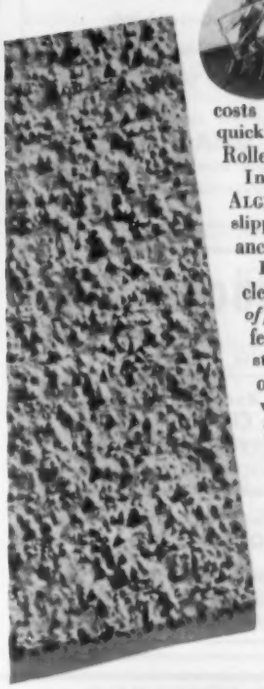

Crippling accidents on wet, slippery floors in paper plants that cut production and drive insurance costs up can be stopped easily and quickly by laying ALGRIP Abrasive Rolled Steel Floor Plate.

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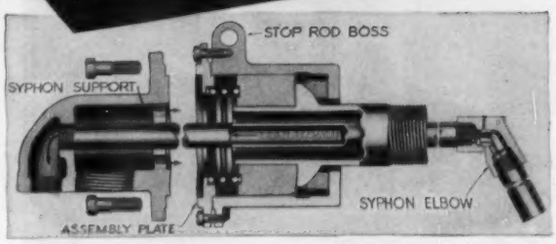

Here's a combination of new ideas that is getting a big welcome from the paper industry. It consists of the self-supporting Type S Johnson Joint — now with streamlined design for lighter weight, less cost and longer life of the wearing parts — with the addition of assembly plate and syphon elbow. Plate holds internal parts in position when head is removed to get at the syphon pipe. And syphon elbow permits use of straight pipe for syphon connections. Elbow seals tightly when in position, allows pipe to be inserted or withdrawn right through the joint body.

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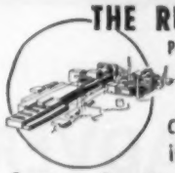

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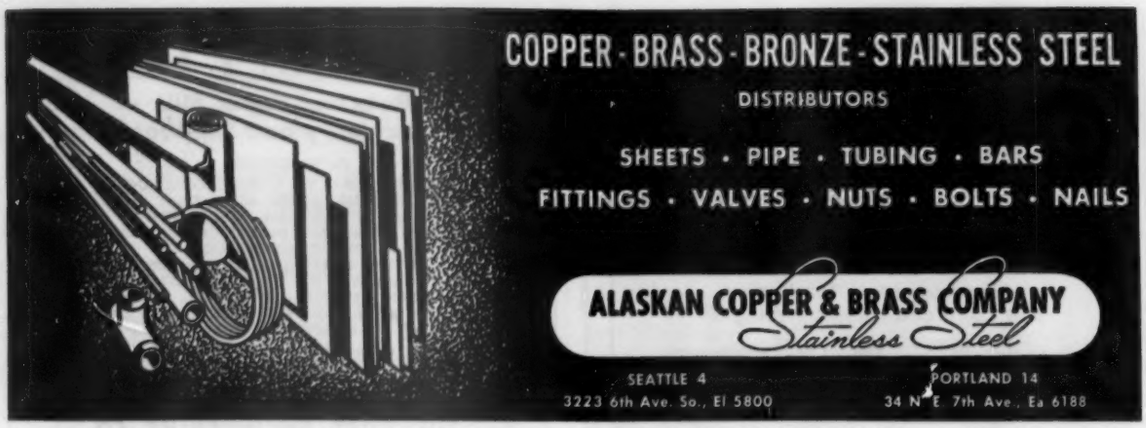
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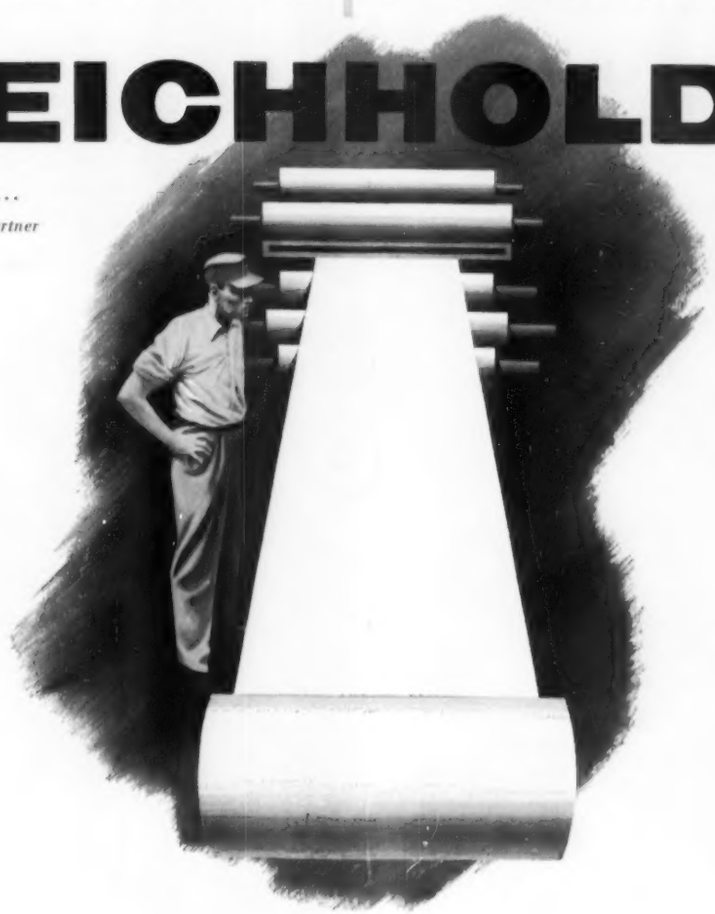

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